claim 36

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TERMINAL (ENTER 1, 2, 3, OR ?):2

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NEWS 1		Web Page URLs for STN Seminar Schedule - N. America
NEWS 2	Apr 08	"Ask CAS" for self-help around the clock
NEWS 3	Apr 09	BEILSTEIN: Reload and Implementation of a New Subject Area
NEWS 4	Apr 09	ZDB will be removed from STN
NEWS 5	Apr 19	US Patent Applications available in IFICDB, IFIPAT, and IFIUDB
NEWS 6	Apr 22	Records from IP.com available in CAPLUS, HCAPLUS, and ZCAPLUS
NEWS 7	Apr 22	BIOSIS Gene Names now available in TOXCENTER
NEWS 8	Apr 22	Federal Research in Progress (FEDRIP) now available
NEWS 9	Jun 03	New e-mail delivery for search results now available
NEWS 10	Jun 10	MEDLINE Reload
NEWS 11	Jun 10	PCTFULL has been reloaded
NEWS 12	Jul 02	FOREGE no longer contains STANDARDS file segment
NEWS 13	Jul 22	USAN to be reloaded July 28, 2002; saved answer sets no longer valid
NEWS 14	Jul 29	Enhanced polymer searching in REGISTRY
NEWS 15	Jul 30	NETFIRST to be removed from STN
NEWS 16	Aug 08	CANCERLIT reload
NEWS 17	Aug 08	PHARMAMarketLetter(PHARMAML) - new on STN
NEWS 18	Aug 08	NTIS has been reloaded and enhanced
NEWS 19	Aug 19	Aquatic Toxicity Information Retrieval (AQUIRE) now available on STN
NEWS 20	Aug 19	IFIPAT, IFICDB, and IFIUDB have been reloaded
NEWS 21	Aug 19	The MEDLINE file segment of TOXCENTER has been reloaded
NEWS 22	Aug 26	Sequence searching in REGISTRY enhanced
NEWS 23	Sep 03	JAPIO has been reloaded and enhanced
NEWS 24	Sep 16	Experimental properties added to the REGISTRY file
NEWS 25	Sep 16	CA Section Thesaurus available in CAPLUS and CA
NEWS 26	Oct 01	CASREACT Enriched with Reactions from 1907 to 1985
NEWS 27	Oct 21	EVENTLINE has been reloaded
NEWS 28	Oct 24	BEILSTEIN adds new search fields
NEWS 29	Oct 24	Nutraceuticals International (NUTRACEUT) now available on STN
NEWS 30	Oct 25	MEDLINE SDI run of October 8, 2002
NEWS 31	Nov 18	DKILIT has been renamed APOLLIT
NEWS 32	Nov 25	More calculated properties added to REGISTRY
NEWS 33	Dec 02	TIBKAT will be removed from STN
NEWS 34	Dec 04	CSA files on STN
NEWS 35	Dec 17	PCTFULL now covers WP/PCT Applications from 1978 to date
NEWS 36	Dec 17	TOXCENTER enhanced with additional content
NEWS 37	Dec 17	Adis Clinical Trials Insight now available on STN
NEWS 38	Dec 30	ISMEC no longer available
NEWS 39	Jan 21	NUTRACEUT offering one free connect hour in February 2003
NEWS 40	Jan 21	PHARMAML offering one free connect hour in February 2003
NEWS 41	Jan 29	Simultaneous left and right truncation added to COMPENDEX, ENERGY, INSPEC
NEWS 42	Feb 13	CANCERLIT is no longer being updated

NEWS 43 Feb 24 METADEX enhancements
NEWS 44 Feb 24 PCTGEN now available on STN
NEWS 45 Feb 24 TEMA now available on STN
NEWS 46 Feb 26 NTIS now allows simultaneous left and right truncation
NEWS 47 Feb 26 PCTFULL now contains images
NEWS 48 Mar 04 SDI PACKAGE for monthly delivery of multifile SDI results
NEWS 49 Mar 19 APOLLIT offering free connect time in April 2003
NEWS 50 Mar 20 EVENTLINE will be removed from STN
NEWS 51 Mar 24 PATDPAFULL now available on STN
NEWS 52 Mar 24 Additional information for trade-named substances without structures available in REGISTRY
NEWS 53 Mar 24 Indexing from 1957 to 1966 added to records in CA/CAPLUS

NEWS EXPRESS January 6 CURRENT WINDOWS VERSION IS V6.01a,
CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP),
AND CURRENT DISCOVER FILE IS DATED 01 OCTOBER 2002
NEWS HOURS STN Operating Hours Plus Help Desk Availability
NEWS INTER General Internet Information
NEWS LOGIN Welcome Banner and News Items
NEWS PHONE Direct Dial and Telecommunication Network Access to STN
NEWS WWW CAS World Wide Web Site (general information)

Enter NEWS followed by the item number or name to see news on that specific topic.

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* * * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 07:44:25 ON 04 APR 2003

=> file registry

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'REGISTRY' ENTERED AT 07:44:36 ON 04 APR 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 2 APR 2003 HIGHEST RN 501410-52-2
DICTIONARY FILE UPDATES: 2 APR 2003 HIGHEST RN 501410-52-2

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when conducting SmartSELECT searches.

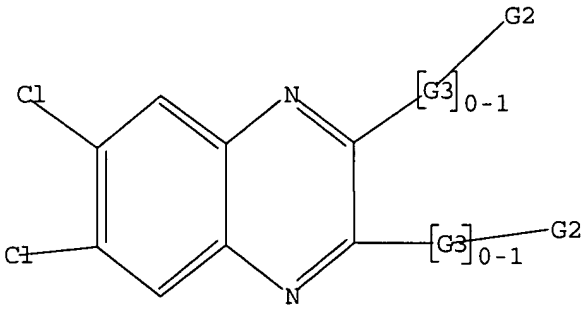
Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=>
Uploading 09483504.7

L1 STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1 STR



G1

G2 C,H,CF3,CN,NO2,Cb

G3 C,S,N,P

Structure attributes must be viewed using STN Express query preparation.

=> s l1
SAMPLE SEARCH INITIATED 07:54:22 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 86 TO ITERATE

100.0% PROCESSED 86 ITERATIONS 19 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 1164 TO 2276
PROJECTED ANSWERS: 119 TO 641

L2 19 SEA SSS SAM L1

=> file caplus
COST IN U.S. DOLLARS

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.40	0.61

FILE 'CAPLUS' ENTERED AT 07:54:29 ON 04 APR 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.

PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 4 Apr 2003 VOL 138 ISS 15
FILE LAST UPDATED: 3 Apr 2003 (20030403/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> file registry

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.42	1.03

FILE 'REGISTRY' ENTERED AT 07:55:14 ON 04 APR 2003

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 2 APR 2003 HIGHEST RN 501410-52-2
DICTIONARY FILE UPDATES: 2 APR 2003 HIGHEST RN 501410-52-2

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP PROPERTIES for more information. See STNote 27, Searching Properties in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf

=> s l1 sss full
FULL SEARCH INITIATED 07:55:30 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 1717 TO ITERATE

100.0% PROCESSED 1717 ITERATIONS 235 ANSWERS
SEARCH TIME: 00.00.01

L3 235 SEA SSS FUL L1

=> file caplus
COST IN U.S. DOLLARS

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	148.15	149.18

FILE 'CAPLUS' ENTERED AT 07:55:35 ON 04 APR 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

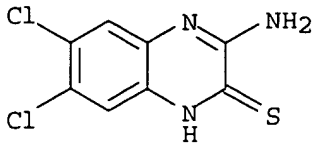
FILE COVERS 1907 - 4 Apr 2003 VOL 138 ISS 15
FILE LAST UPDATED: 3 Apr 2003 (20030403/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

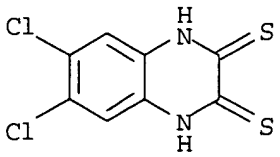
=> s l3
L4 100 L3

=> d l4 fbib hitstr abs total

L4 ANSWER 1 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 2002:389421 CAPLUS
DN 137:126416
TI Synthesis and application of 2-styryl-6,7-dichlorothiazolo[4,5-b]quinoxaline based fluorescent dyes: part 3
AU Sonawane, N. D.; Rangnekar, D. W.
CS Dyes research laboratory, Department of Chemical Technology, University of Mumbai, Mumbai, 400 019, India
SO Journal of Heterocyclic Chemistry (2002), 39(2), 303-308
CODEN: JHTCAD; ISSN: 0022-152X
PB HeteroCorporation
DT Journal
LA English
OS CASREACT 137:126416
IT **443795-59-3P**, 6,7-Dichloro-2,3-quinoxalinediamine
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; prepn., properties and application of styryl dichlorothiazoloquinoxaline fluorescent dyes)
RN 443795-59-3 CAPLUS
CN 2(1H)-Quinoxalinethione, 3-amino-6,7-dichloro- (9CI) (CA INDEX NAME)

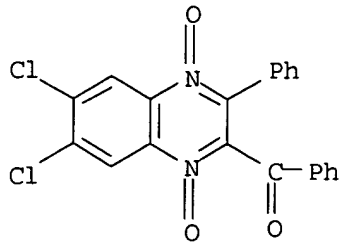


IT **55295-04-0**, 6,7-Dichloro-2,3-quinoxalinedithiol
RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material; prepn., properties and application of styryl dichlorothiazoloquinoxaline fluorescent dyes)
RN 55295-04-0 CAPLUS
CN 2,3-Quinoxalinedithione, 6,7-dichloro-1,4-dihydro- (9CI) (CA INDEX NAME)



AB A new efficient synthesis of 2-styryl-6,7-dichlorothiazolo[4,5-b]quinoxaline-based fluorescent dyes was achieved by the condensation of 2-methyl-6,7-dichlorothiazolo[4,5-b]quinoxaline with selected 4-(dialkylamino)arylaldehydes and heteroarylaldehydes in the presence of piperidine. The coloristic, fluorophoric, and polyester dyeing properties of these dyes were studied.
RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 2002:316926 CAPLUS
DN 137:210566
TI Quinoxaline 1,4-dioxides: hypoxia-selective therapeutic agents
AU Diab-Assef, Mona; Haddadin, Makhluf J.; Yared, Pierre; Assaad, Chafika; Gali-Muhtasib, Hala U.
CS Department of Biology, American University of Beirut, Beirut, Lebanon
SO Molecular Carcinogenesis (2002), 33(4), 198-205
CODEN: MOCAE8; ISSN: 0899-1987
PB Wiley-Liss, Inc.
DT Journal
LA English
IT **60680-42-4**
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(quinoxaline dioxides as hypoxia-selective antitumor agents)
RN 60680-42-4 CAPLUS
CN Methanone, (6,7-dichloro-1,4-dioxido-3-phenyl-2-quinoxalinyl)phenyl- (9CI) (CA INDEX NAME)



AB A problem that confronts clinicians in the treatment of cancer is the resistance of hypoxic tumors to chemotherapy and radiation therapy. Thus, the development of new drugs that are toxic to hypoxic cells found in solid tumors is an important objective for effective anticancer chemotherapy. We recently showed that the heterocyclic arom. N-oxides, quinoxaline 1,4-dioxides (QdNOs), are cytotoxic to tumor cells cultured under hypoxia. In this study, we evaluated the hypoxia-selective toxicity of four diversely substituted QdNOs and detd. their effect on the expression of hypoxia inducible factor (HIF) 1.alpha. in the human colon cancer cell line T-84. The various QdNOs were found to possess a 50- to 100-fold greater cytotoxicity to T-84 cells cultured under hypoxia compared with oxia. Interestingly, the hypoxia cytotoxicity ratio (HCR), the ratio of equitoxic concns. of the drug under aerobic/anoxic conditions, was highly structure related and depended on the nature of the substituents on the QdNO heterocycle. The most cytotoxic 2-benzoyl-3-phenyl-6,7-dichloro deriv. of QdNO (DCQ) was potent at a dose of 1 .mu.M with an HCR of 100 and significantly reduced the levels of HIF-1.alpha. transcript and protein. The 2-benzoyl-3-Ph deriv. (BPQ) had a hypoxia potency of 20 .mu.M and an HCR of 40. By contrast, the 2-aceto-3-Me and the 2,3-tetramethylene (TMQ) derivs. of QdNO were much less cytotoxic under hypoxia (HCRs of 8.5 and 6.5, resp.) and reduced the expression of HIF-1.alpha. mRNA to a much lesser extent. Because the non-chlorinated analog BPQ did not demonstrate behavior similar to that of DCQ, we hypothesize that the C-6, C-7-chlorine of DCQ might play a significant role in the selective hypoxic cytotoxicity of the drug.

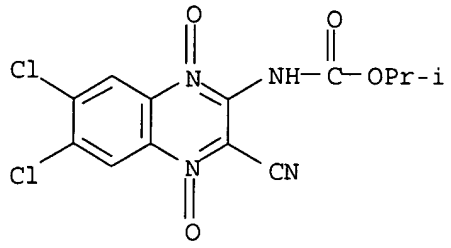
RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 2002:246597 CAPLUS
DN 137:134476
TI Anti-Mycobacterium tuberculosis agents derived from quinoxaline-2-carbonitrile and quinoxaline-2-carbonitrile 1,4-di-N-oxide
AU Ortega, Miguel Angel; Sainz, Yolanda; Montoya, Maria Elena; Jaso, Andres; Zarranz, Belen; Aldana, Ignacio; Monge, Antonio
CS Unidad en Investigacion y Desarrollo de Medicamentos, CIFA, Universidad de Navarra, Pamplona, Spain
SO Arzneimittel-Forschung (2002), 52(2), 113-119
CODEN: ARZNAD; ISSN: 0004-4172
PB Editio Cantor Verlag
DT Journal
LA English
OS CASREACT 137:134476
IT **187028-94-0P 444807-89-0P 444807-90-3P**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(quinoxaline-2-carbonitrile derivs. anti-Mycobacterium tuberculosis action)

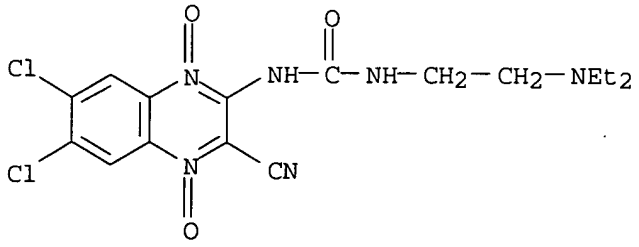
RN 187028-94-0 CAPLUS

CN Carbamic acid, (6,7-dichloro-3-cyano-1,4-dioxido-2-quinoxalinyl)-, 1-methylethyl ester (9CI) (CA INDEX NAME)



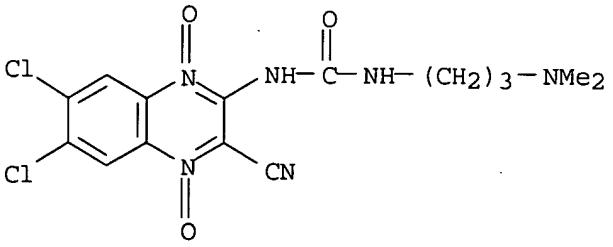
RN 444807-89-0 CAPLUS

CN Urea, N-(6,7-dichloro-3-cyano-1,4-dioxido-2-quinoxalinyl)-N'-[2-(diethylamino)ethyl]- (9CI) (CA INDEX NAME)



RN 444807-90-3 CAPLUS

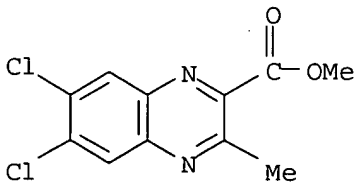
CN Urea, N-(6,7-dichloro-3-cyano-1,4-dioxido-2-quinoxalinyl)-N'-[3-(dimethylamino)propyl]- (9CI) (CA INDEX NAME)



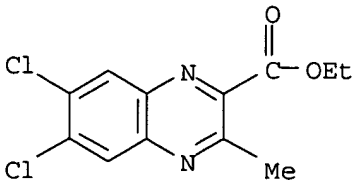
AB In this paper new quinoxaline derivs. with different substituents in positions 3, 6, 7 and 8 are reported. Their biol. activities against Mycobacterium tuberculosis have been assessed and most of the 1,4-di-N-oxide derivs. have been shown to strongly inhibit the bacteria growth in the first in vitro screening. One of these N-oxides (4) is a promising candidate due to its good Selectivity Index (7.95). On the other hand, those compds. without N-oxide moieties showed no or very low activity (growth inhibition: 17% and 39%).

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 2001:735156 CAPLUS
DN 136:102354
TI A new convenient liquid- and solid-phase synthesis of quinoxalines from (E)-3-diazenylbut-2-enes
AU Attanasi, Orazio A.; De Crescentini, Lucia; Filippone, Paolino; Mantellini, Fabio; Santeusanio, Stefania
CS Istituto di Chimica Organica, Universita di Urbino, Urbino, I-61029, Italy
SO Helvetica Chimica Acta (2001), 84(8), 2379-2386
CODEN: HCACAV; ISSN: 0018-019X
PB Verlag Helvetica Chimica Acta
DT Journal
LA English
IT **389121-66-8P 389121-67-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(liq.-phase and solid-phase prepn. of quinoxalinecarboxylates from arenediamines and (1E)-[(1E)-3-alkoxy-1-methyl-3-oxo-1-propenyl]diazenecarboxylates)
RN 389121-66-8 CAPLUS
CN 2-Quinoxalinecarboxylic acid, 6,7-dichloro-3-methyl-, methyl ester (9CI) (CA INDEX NAME)



RN 389121-67-9 CAPLUS
CN 2-Quinoxalinecarboxylic acid, 6,7-dichloro-3-methyl-, ethyl ester (9CI) (CA INDEX NAME)



AB Diazenecarboxylates, e.g., (1E)-[(1E)-3-methoxy-1-methyl-3-oxo-1-propenyl]diazenecarboxylic acid 1,1-dimethylethyl ester or (1E)-[(1E)-3-ethoxy-1-methyl-3-oxo-1-propenyl]diazenecarboxylic acid 1,1-dimethylethyl ester, etc., react with 1,2-diamines to give 3-methylquinoxaline-2-carboxylates. These products were also obtained in solid-phase synthesis, by using polymer-bound 3-diazenylbut-2-enes, i.e., Wang resin-bound (1E)-[(1E)-3-hydroxy-1-methyl-3-oxo-1-propenyl]diazenecarboxylic acid 1,1-dimethylethyl ester or Merrifield resin-bound (1E)-[(1E)-3-hydroxy-1-methyl-3-oxo-1-propenyl]diazenecarboxylic acid 1,1-dimethylethyl ester.
RE.CNT 55 THERE ARE 55 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 2001:693046 CAPLUS
DN 135:277730
TI Preparation containing quinoxaline derivatives
IN Pfluecker, Frank; Driller, Hansjuergen; Kirschbaum, Michael; Scholz, Volker; Neunhoeffer, Hans
PA Merck Patent G.m.b.H., Germany
SO PCT Int. Appl., 117 pp.
CODEN: PIXXD2
DT Patent
LA German
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2001068047	A2	20010920	WO 2001-EP2517	20010306
WO 2001068047	A3	20020307		

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

DE 2000-10013318A 20000317

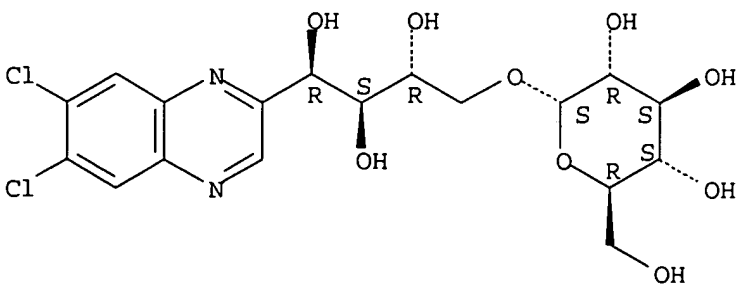
DE 10013318	A1	20010920	DE 2000-10013318	20000317
EP 1267819	A2	20030102	EP 2001-909822	20010306

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

DE 2000-10013318A 20000317
WO 2001-EP2517 W 20010306

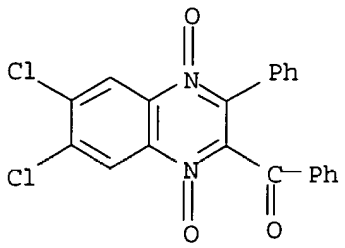
OS MARPAT 135:277730
IT **361389-99-3P**
RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepns. contg. quinoxaline derivs. as photostable UV filters for cosmetic and pharmaceutical use)
RN 361389-99-3 CAPLUS
CN .alpha.-D-Glucopyranoside, (2R,3S,4R)-4-(6,7-dichloro-2-quinoxalinyl)-2,3,4-trihydroxybutyl (9CI) (CA INDEX NAME)

Absolute stereochemistry.



AB The invention relates to the use of quinoxaline derivs. as photostable UV filters in cosmetic and pharmaceutical prepns. for protecting the human epidermis or human hair against UV radiation, esp. in the 280-400 nm range.

L4 ANSWER 6 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 2001:340173 CAPLUS
DN 135:313259
TI Quinoxaline 1,4-dioxides as anticancer and hypoxia-selective drugs
AU Gali-Muhtasib, Hala U.; Haddadin, Makhluf J.; Rahhal, Dina N.; Younes, Ihab H.
CS Department of Biology, American University of Beirut, Beirut, Lebanon
SO Oncology Reports (2001), 8(3), 679-684
CODEN: OCRPEW; ISSN: 1021-335X
PB Oncology Reports
DT Journal
LA English
IT **60680-42-4**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(quinoxaline 1,4-dioxides as anticancer and hypoxia-selective drugs)
RN 60680-42-4 CAPLUS
CN Methanone, (6,7-dichloro-1,4-dioxido-3-phenyl-2-quinoxalinyl)phenyl- (9CI) (CA INDEX NAME)



AB Hypoxic cells which are found in solid tumors are resistant to anticancer drugs and radiation therapy. Thus, for effective anticancer chemotherapy, it is important to identify drugs with selective toxicity towards hypoxic cells. Quinoxaline 1,4-dioxides (QdNOs) are heterocyclic arom. N-oxides that were found to possess potent antibacterial activities (inhibit microbial DNA synthesis) esp. under anaerobic conditions; thus they are under evaluation as bioreductive drugs for the treatment of solid tumors. The authors investigated the ability of 4 differently substituted QdNOs to inhibit cell growth and induce cell cycle changes in 2 human tumorigenic epithelial cell lines under oxic conditions. The authors also evaluated the toxicity of these drugs to cancer cells cultured under hypoxic conditions. 2 Epithelial cell lines (the T-84 human colon cancer-derived cell line, and the SP-1 keratinocyte cell line) were treated with various doses of the QdNOs and harvested at different times after treatment. Proliferation and cell cycle results showed a structure-function relationship in the activity of the various QdNO compds. with the 2-benzoyl-3-phenyl-6,7-dichloro-deriv. of QdNO (DCBPQ) being the most potent cytotoxin and hypoxia-selective drug. The 2-benzoyl-3-Ph (BPQ) and the 2-acyl-3-methyl-deriv. of QdNO (AMQ) were less cytotoxic but arrested almost 50% of the cells in the G2M phase of the cell cycle at doses of 30

and 120 .mu.M, resp. The tetramethylene deriv. of QdNO (TMQ) did not affect the growth and cycling of cells cultured in air and was the least potent cytotoxin to hypoxic cells. The authors' results indicate that the QdNOs are hypoxia-cytotoxic drugs whose activity varies according to the substituents on the quinoxaline 1,4-dioxide heterocycle. Because of their selective toxicity to hypoxic cells (cells found in human tumors), these drugs may provide useful therapeutic agents against solid tumors.

RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 7 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 2000:493530 CAPLUS
DN 133:89542
TI Preparation of quinoxalines as non-peptide GLP-1 agonists
IN Teng, Min; Truesdale, Larry Kenneth; Bhumralkar, Dilip; Kiel, Dan; Johnson, Michael D.; Thomas, Christine; Jorgensen, Anker Steen; Madsen, Peter; Olesen, Preben Houlberg; Knudsen, Liselotte Bjerre; Petterson, Ingrid Vivika; Cornelis De Jong, Johannes; Behrens, Carsten; Kodra, Janos Tibor; Lau, Jesper
PA Novo Nordisk A/S, Den.; Agouron Pharmaceuticals, Inc.
SO PCT Int. Appl., 194 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2000042026	A1	20000720	WO 2000-DK14	20000114
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
			DK 1999-41	A 19990115
EP 1147094	A1	20011024	EP 2000-900499	20000114
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
			DK 1999-41	A 19990115
			WO 2000-DK14	W 20000114
JP 2002534512	T2	20021015	JP 2000-593594	20000114
			DK 1999-41	A 19990115
			WO 2000-DK14	W 20000114

OS MARPAT 133:89542
IT **281208-86-4P 281208-91-1P 281208-92-2P**
281209-02-7P 281209-03-8P 281209-04-9P
281209-05-0P 281209-06-1P 281209-23-2P
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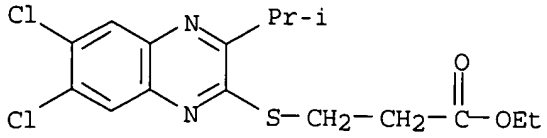
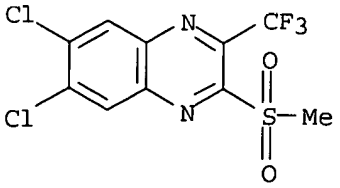
281210-07-9P 281210-08-0P 281210-09-1P
281210-14-8P 281210-16-0P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of quinoxalines as non-peptide GLP-1 agonists)

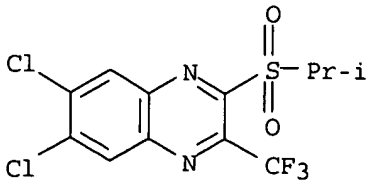
RN 281208-86-4 CAPLUS
CN Propanoic acid, 3-[[6,7-dichloro-3-(1-methylethyl)-2-quinoxalinyl]thio]-, ethyl ester (9CI) (CA INDEX NAME)



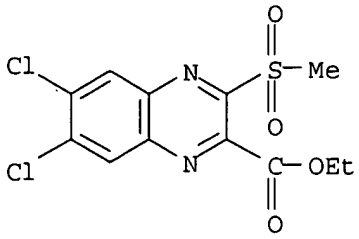
RN 281208-91-1 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-(methylsulfonyl)-3-(trifluoromethyl)- (9CI) (CA INDEX NAME)



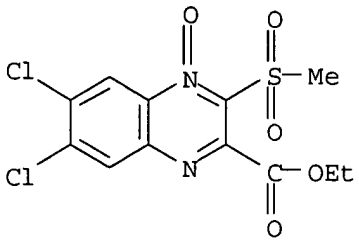
RN 281208-92-2 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-[(1-methylethyl)sulfonyl]-3-(trifluoromethyl)- (9CI) (CA INDEX NAME)



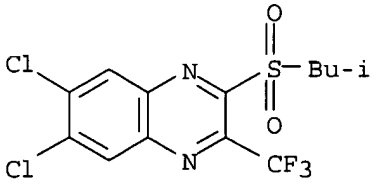
RN 281209-02-7 CAPLUS
CN 2-Quinoxalinecarboxylic acid, 6,7-dichloro-3-(methylsulfonyl)-, ethyl ester (9CI) (CA INDEX NAME)



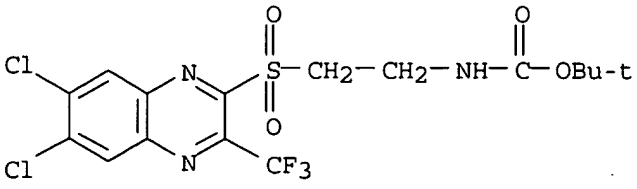
RN 281209-03-8 CAPLUS
CN 2-Quinoxalinecarboxylic acid, 6,7-dichloro-3-(methylsulfonyl)-, ethyl ester, 4-oxide (9CI) (CA INDEX NAME)



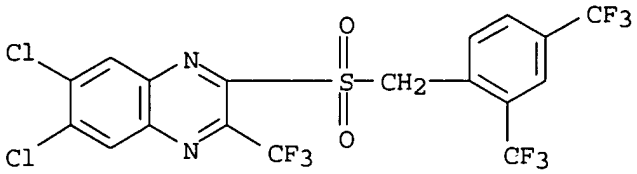
RN 281209-04-9 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-[(2-methylpropyl)sulfonyl]-3-(trifluoromethyl)- (9CI) (CA INDEX NAME)



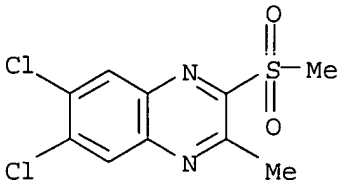
RN 281209-05-0 CAPLUS
CN Carbamic acid, [2-[[6,7-dichloro-3-(trifluoromethyl)-2-quinoxalinyl]sulfonyl]ethyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



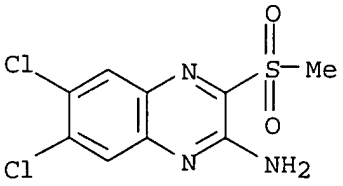
RN 281209-06-1 CAPLUS
CN Quinoxaline, 2-[[[2,4-bis(trifluoromethyl)phenyl]methyl]sulfonyl]-6,7-dichloro-3-(trifluoromethyl)- (9CI) (CA INDEX NAME)



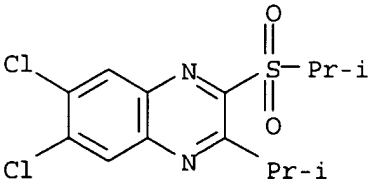
RN 281209-23-2 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-methyl-3-(methylsulfonyl)- (9CI) (CA INDEX NAME)



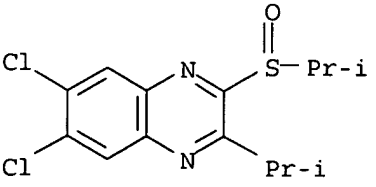
RN 281209-26-5 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-3-(methylsulfonyl)- (9CI) (CA INDEX NAME)



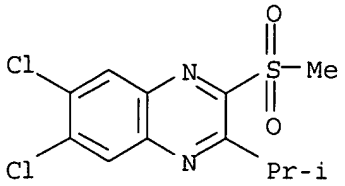
RN 281209-33-4 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-(1-methylethyl)-3-[(1-methylethyl)sulfonyl]- (9CI) (CA INDEX NAME)



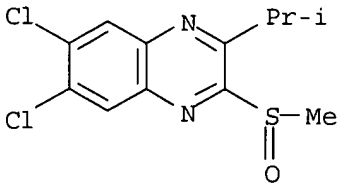
RN 281209-34-5 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-(1-methylethyl)-3-[(1-methylethyl)sulfinyl]- (9CI) (CA INDEX NAME)



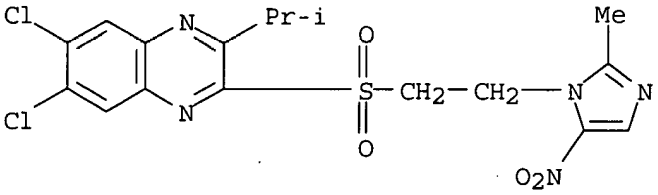
RN 281209-35-6 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-(1-methylethyl)-3-(methylsulfonyl)- (9CI) (CA INDEX NAME)



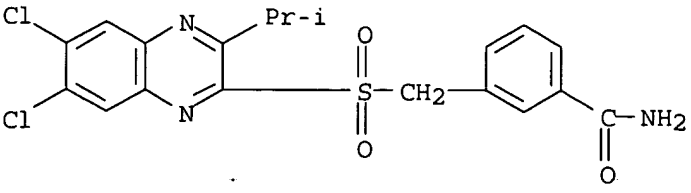
RN 281209-36-7 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-(1-methylethyl)-3-(methylsulfinyl)- (9CI) (CA INDEX NAME)



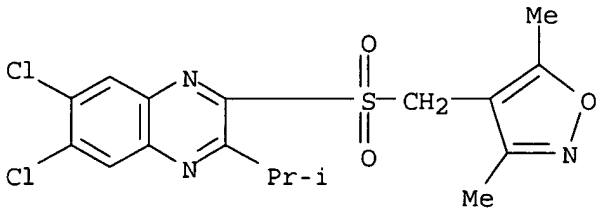
RN 281209-37-8 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-(1-methylethyl)-3-[[2-(2-methyl-5-nitro-1H-imidazol-1-yl)ethyl]sulfonyl]- (9CI) (CA INDEX NAME)



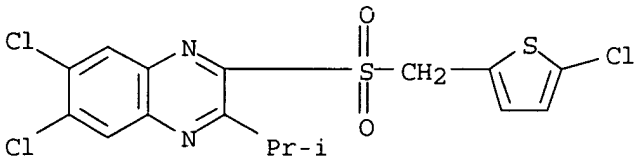
RN 281209-38-9 CAPLUS
CN Benzamide, 3-[[[6,7-dichloro-3-(1-methylethyl)-2-quinoxalinyl]sulfonyl]methyl]- (9CI) (CA INDEX NAME)



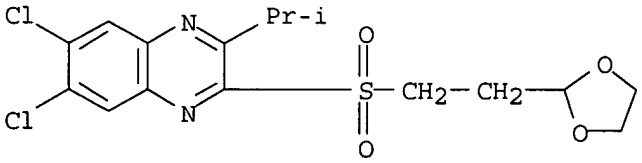
RN 281209-40-3 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-[[(3,5-dimethyl-4-isoxazolyl)methyl]sulfonyl]-3-(1-methylethyl)- (9CI) (CA INDEX NAME)



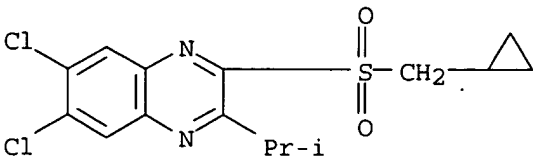
RN 281209-41-4 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-[[(5-chloro-2-thienyl)methyl]sulfonyl]-3-(1-methylethyl)- (9CI) (CA INDEX NAME)



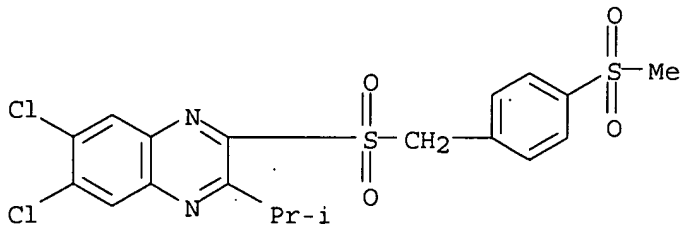
RN 281209-42-5 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-[[2-(1,3-dioxolan-2-yl)ethyl]sulfonyl]-3-(1-methylethyl)- (9CI) (CA INDEX NAME)



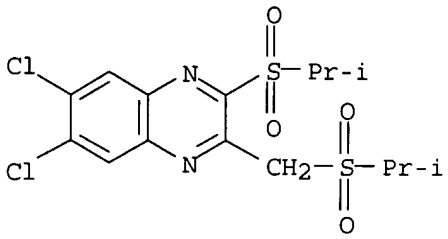
RN 281209-43-6 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-[(cyclopropylmethyl)sulfonyl]-3-(1-methylethyl)- (9CI) (CA INDEX NAME)



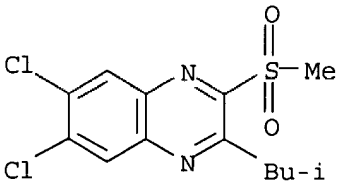
RN 281209-44-7 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-(1-methylethyl)-3-[[[4-(methylsulfonyl)phenyl]methyl]sulfonyl]- (9CI) (CA INDEX NAME)



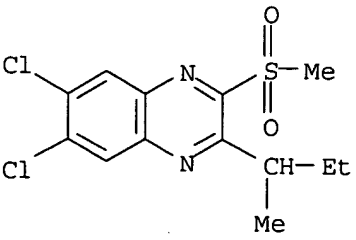
RN 281209-45-8 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-[(1-methylethyl)sulfonyl]-3-[[(1-methylethyl)sulfonyl]methyl]- (9CI) (CA INDEX NAME)



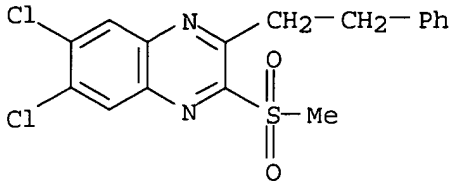
RN 281209-46-9 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-(2-methylpropyl)-3-(methylsulfonyl)- (9CI) (CA INDEX NAME)



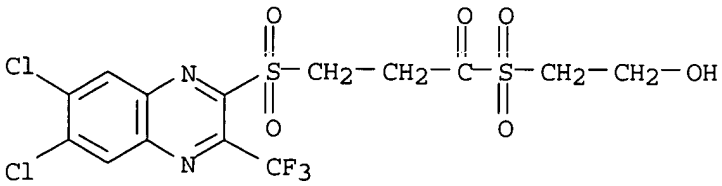
RN 281209-47-0 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-(1-methylpropyl)-3-(methylsulfonyl)- (9CI) (CA INDEX NAME)



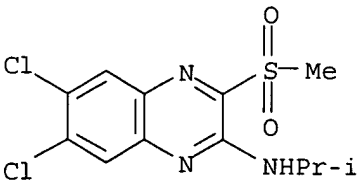
RN 281209-48-1 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-(methylsulfonyl)-3-(2-phenylethyl)- (9CI) (CA INDEX NAME)



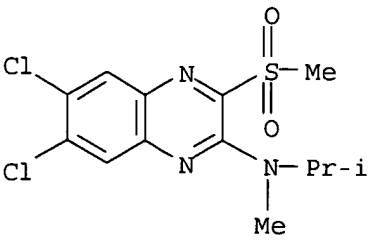
RN 281209-51-6 CAPLUS
CN Ethanol, 2-[[3-[[6,7-dichloro-3-(trifluoromethyl)-2-quinoxalinyl]sulfonyl]-1-oxopropyl]sulfonyl]- (9CI) (CA INDEX NAME)



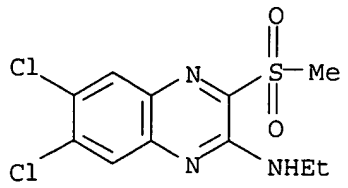
RN 281209-52-7 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-N-(1-methylethyl)-3-(methylsulfonyl)- (9CI) (CA INDEX NAME)



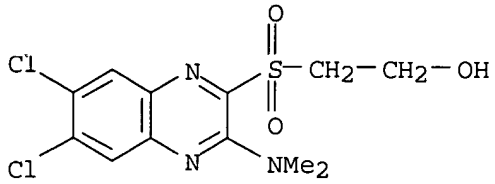
RN 281209-53-8 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-N-methyl-N-(1-methylethyl)-3-(methylsulfonyl)- (9CI) (CA INDEX NAME)



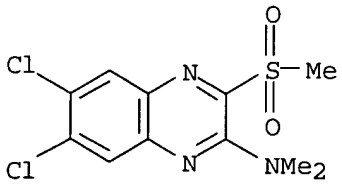
RN 281209-54-9 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-N-ethyl-3-(methylsulfonyl)- (9CI) (CA INDEX NAME)



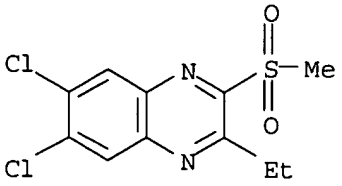
RN 281209-55-0 CAPLUS
CN Ethanol, 2-[[6,7-dichloro-3-(dimethylamino)-2-quinoxalinyl]sulfonyl]- (9CI) (CA INDEX NAME)



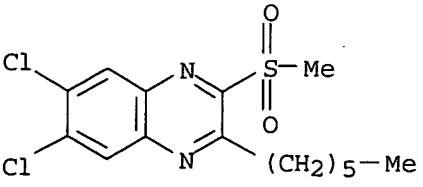
RN 281209-56-1 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-N,N-dimethyl-3-(methylsulfonyl)- (9CI) (CA INDEX NAME)

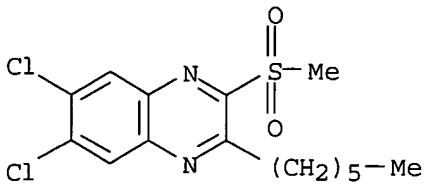


RN 281209-58-3 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-ethyl-3-(methylsulfonyl)- (9CI) (CA INDEX NAME)

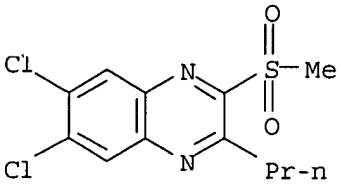


RN 281209-59-4 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-hexyl-3-(methylsulfonyl)- (9CI) (CA INDEX NAME)

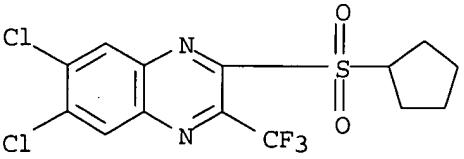




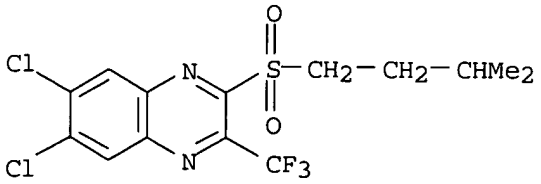
RN 281209-60-7 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-(methylsulfonyl)-3-propyl- (9CI) (CA INDEX NAME)



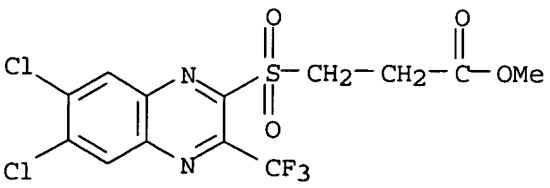
RN 281209-61-8 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-(cyclopentylsulfonyl)-3-(trifluoromethyl)- (9CI) (CA INDEX NAME)

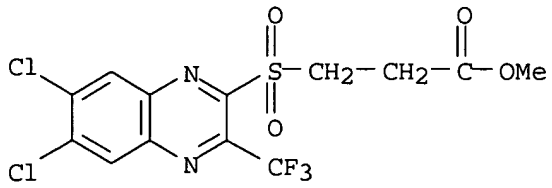


RN 281209-62-9 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-[(3-methylbutyl)sulfonyl]-3-(trifluoromethyl)- (9CI) (CA INDEX NAME)

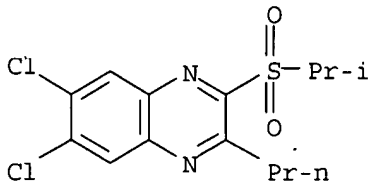


RN 281209-64-1 CAPLUS
CN Propanoic acid, 3-[[6,7-dichloro-3-(trifluoromethyl)-2-quinoxalinyl]sulfonyl]-, methyl ester (9CI) (CA INDEX NAME)

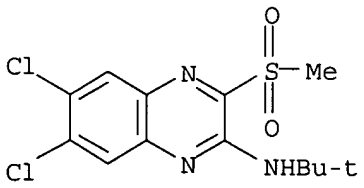




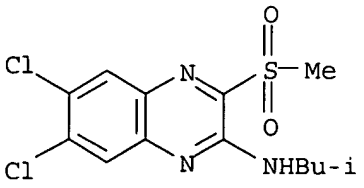
RN 281209-68-5 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-[(1-methylethyl)sulfonyl]-3-propyl- (9CI) (CA INDEX NAME)



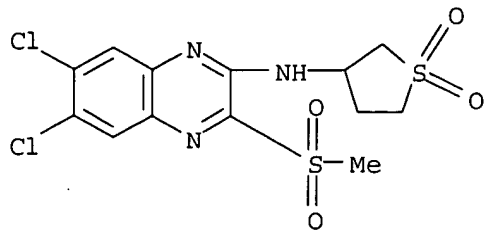
RN 281209-71-0 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-N-(1,1-dimethylethyl)-3-(methylsulfonyl)- (9CI) (CA INDEX NAME)



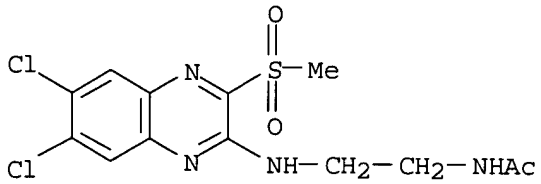
RN 281209-72-1 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-N-(2-methylpropyl)-3-(methylsulfonyl)- (9CI) (CA INDEX NAME)



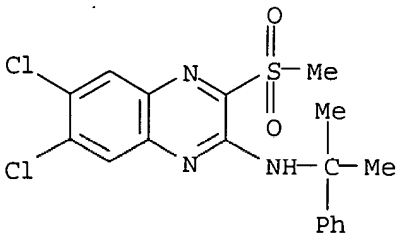
RN 281209-73-2 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-3-(methylsulfonyl)-N-(tetrahydro-1,1-dioxido-3-thienyl)- (9CI) (CA INDEX NAME)



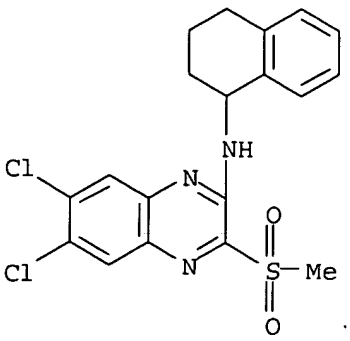
RN 281209-74-3 CAPLUS
CN Acetamide, N-[2-[[6,7-dichloro-3-(methylsulfonyl)-2-quinoxalinyl]amino]ethyl]- (9CI) (CA INDEX NAME)



RN 281209-75-4 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-N-(1-methyl-1-phenylethyl)-3-(methylsulfonyl)- (9CI) (CA INDEX NAME)

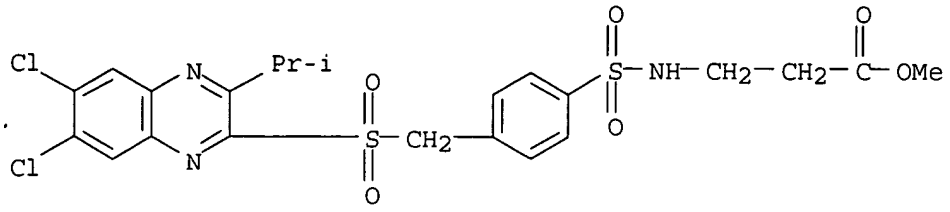


RN 281209-77-6 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-3-(methylsulfonyl)-N-(1,2,3,4-tetrahydro-1-naphthalenyl)- (9CI) (CA INDEX NAME)

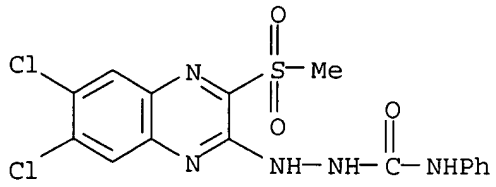


RN 281209-78-7 CAPLUS

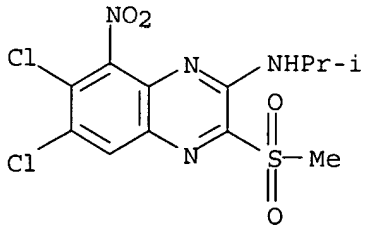
CN .beta.-Alanine, N-[[4-[[[6,7-dichloro-3-(1-methylethyl)-2-quinoxalinyl]sulfonyl]methyl]phenyl]sulfonyl]-, methyl ester (9CI) (CA INDEX NAME)



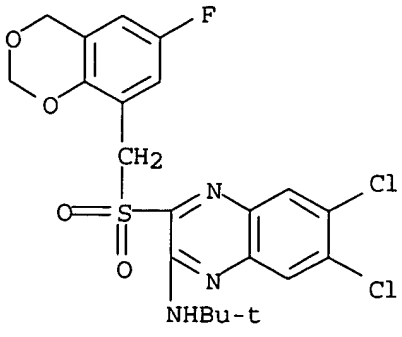
RN 281209-82-3 CAPLUS
CN Hydrazinecarboxamide, 2-[6,7-dichloro-3-(methylsulfonyl)-2-quinoxalinyl]-N-phenyl- (9CI) (CA INDEX NAME)

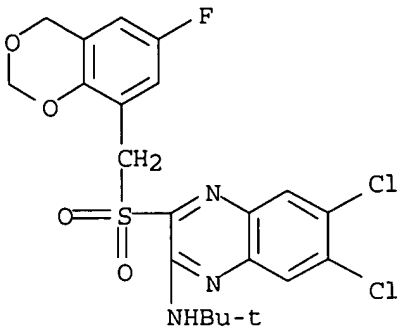


RN 281209-83-4 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-N-(1-methylethyl)-3-(methylsulfonyl)-8-nitro- (9CI) (CA INDEX NAME)

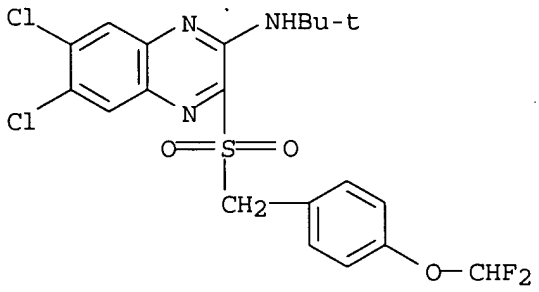


RN 281209-84-5 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-N-(1,1-dimethylethyl)-3-[[(6-fluoro-4H-1,3-benzodioxin-8-yl)methyl]sulfonyl]- (9CI) (CA INDEX NAME)

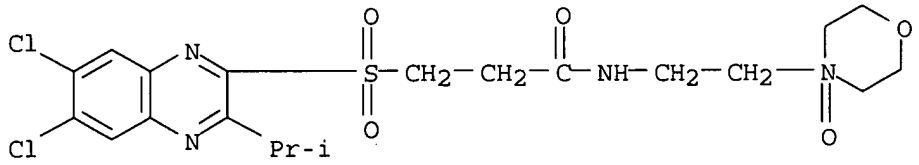




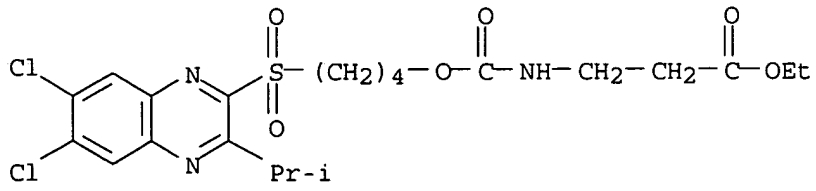
RN 281209-85-6 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-3-[[[4-(difluoromethoxy)phenyl]methyl]sulfonyl]-N-(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



RN 281209-86-7 CAPLUS
CN Propanamide, 3-[[6,7-dichloro-3-(1-methylethyl)-2-quinoxalinyl]sulfonyl]-N-[2-(4-oxido-4-morpholinyl)ethyl]- (9CI) (CA INDEX NAME)

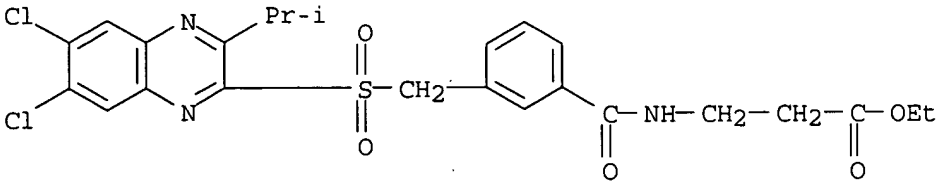


RN 281209-87-8 CAPLUS
CN .beta.-Alanine, N-[[4-[[6,7-dichloro-3-(1-methylethyl)-2-quinoxalinyl]sulfonyl]butoxy]carbonyl]-, ethyl ester (9CI) (CA INDEX NAME)

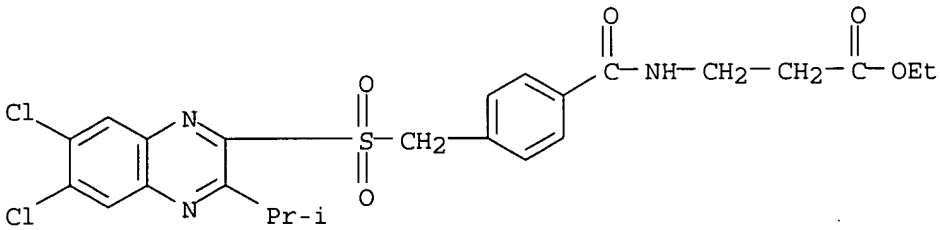


RN 281209-88-9 CAPLUS

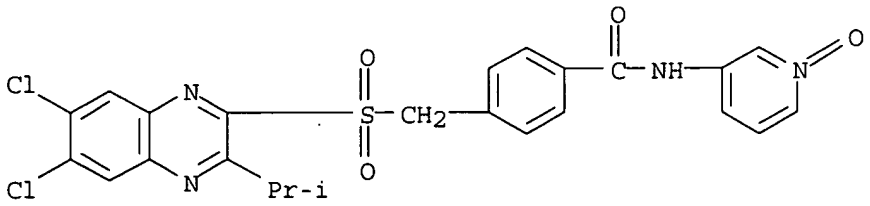
CN .beta.-Alanine, N-[3-[[[6,7-dichloro-3-(1-methylethyl)-2-quinoxalinyl]sulfonyl]methyl]benzoyl]-, ethyl ester (9CI) (CA INDEX NAME)



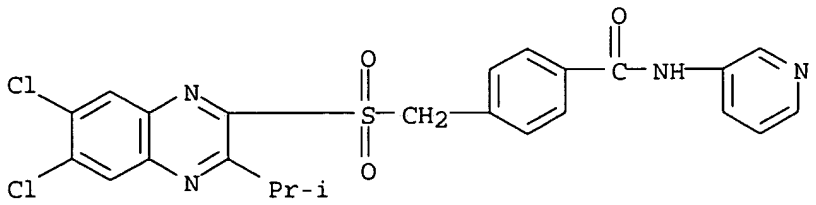
RN 281209-89-0 CAPLUS
CN .beta.-Alanine, N-[4-[[[6,7-dichloro-3-(1-methylethyl)-2-quinoxalinyl]sulfonyl]methyl]benzoyl]-, ethyl ester (9CI) (CA INDEX NAME)



RN 281209-90-3 CAPLUS
CN Benzamide, 4-[[[6,7-dichloro-3-(1-methylethyl)-2-quinoxalinyl]sulfonyl]methyl]-N-(1-oxido-3-pyridinyl)- (9CI) (CA INDEX NAME)

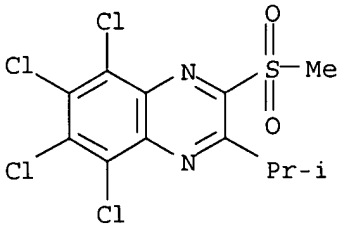


RN 281209-92-5 CAPLUS
CN Benzamide, 4-[[[6,7-dichloro-3-(1-methylethyl)-2-quinoxalinyl]sulfonyl]methyl]-N-3-pyridinyl- (9CI) (CA INDEX NAME)

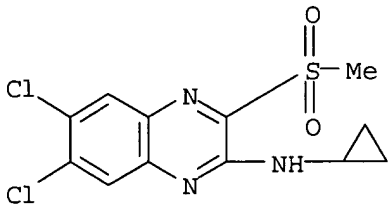


RN 281209-95-8 CAPLUS
CN Quinoxaline, 5,6,7,8-tetrachloro-2-(1-methylethyl)-3-(methylsulfonyl)-

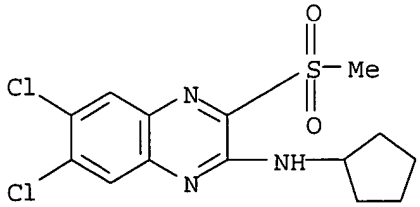
(9CI) (CA INDEX NAME)



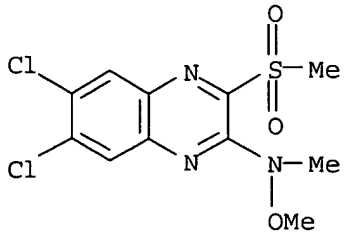
RN 281209-97-0 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-N-cyclopropyl-3-(methylsulfonyl)- (9CI) (CA INDEX NAME)



RN 281209-98-1 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-N-cyclopentyl-3-(methylsulfonyl)- (9CI) (CA INDEX NAME)

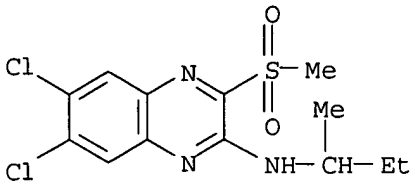


RN 281209-99-2 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-N-methoxy-N-methyl-3-(methylsulfonyl)- (9CI) (CA INDEX NAME)

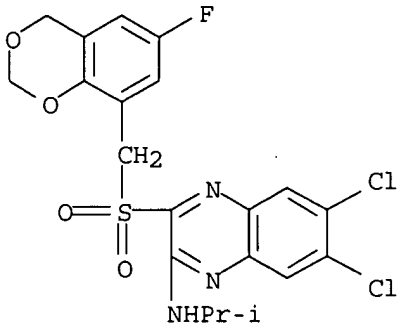


RN 281210-01-3 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-N-(1-methylpropyl)-3-(methylsulfonyl)-

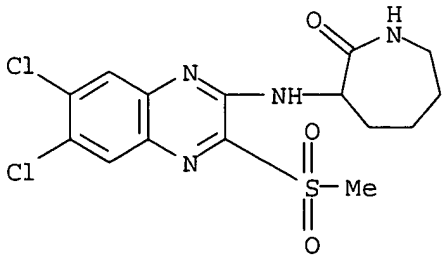
(9CI) (CA INDEX NAME)



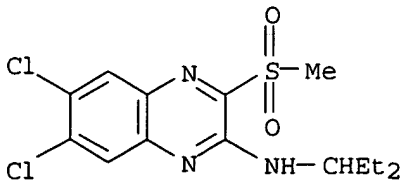
RN 281210-02-4 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-3-[[(6-fluoro-4H-1,3-benzodioxin-8-yl)methyl]sulfonyl]-N-(1-methylethyl)- (9CI) (CA INDEX NAME)



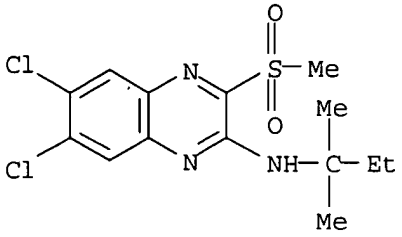
RN 281210-03-5 CAPLUS
CN 2H-Azepin-2-one, 3-[[6,7-dichloro-3-(methylsulfonyl)-2-quinoxalinyl]amino]hexahydro- (9CI) (CA INDEX NAME)



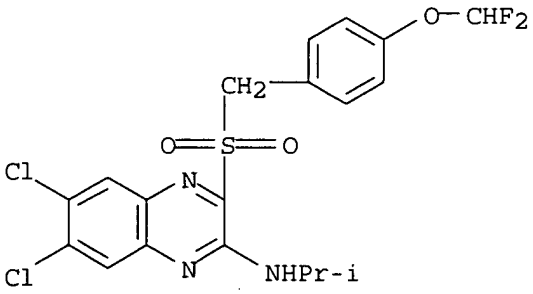
RN 281210-04-6 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-N-(1-ethylpropyl)-3-(methylsulfonyl)- (9CI) (CA INDEX NAME)



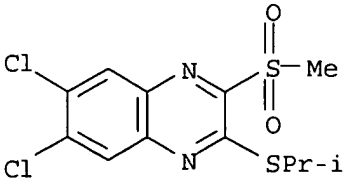
RN 281210-07-9 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-N-(1,1-dimethylpropyl)-3-(methylsulfonyl)-
(9CI) (CA INDEX NAME)



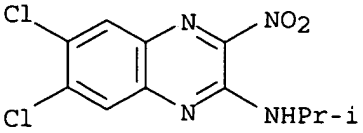
RN 281210-08-0 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-3-[[[4-(difluoromethoxy)phenyl]methyl]sulf
onyl]-N-(1-methylethyl)- (9CI) (CA INDEX NAME)



RN 281210-09-1 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-[(1-methylethyl)thio]-3-(methylsulfonyl)-
(9CI) (CA INDEX NAME)

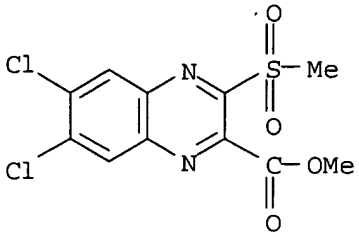


RN 281210-14-8 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-N-(1-methylethyl)-3-nitro- (9CI) (CA
INDEX NAME)



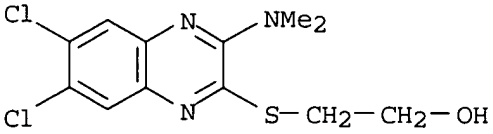
RN 281210-16-0 CAPLUS

CN 2-Quinoxalinecarboxylic acid, 6,7-dichloro-3-(methylsulfonyl)-, methyl ester (9CI) (CA INDEX NAME)

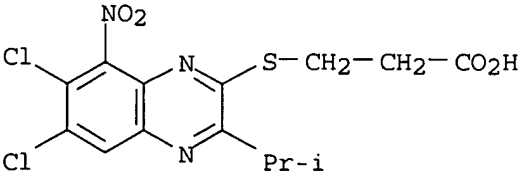


IT **281210-87-5 281210-94-4 281210-96-6 281210-98-8**
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of quinoxalines as non-peptide GLP-1 agonists)

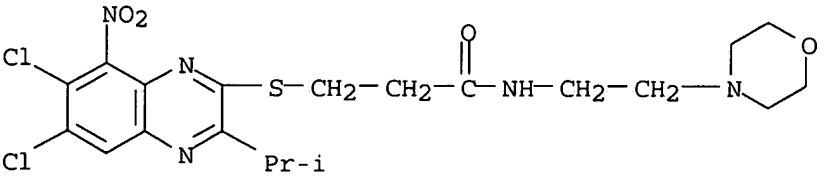
RN 281210-87-5 CAPLUS
CN Ethanol, 2-[[6,7-dichloro-3-(dimethylamino)-2-quinoxalinyl]thio]- (9CI) (CA INDEX NAME)



RN 281210-94-4 CAPLUS
CN Propanoic acid, 3-[[6,7-dichloro-3-(1-methylethyl)-8-nitro-2-quinoxalinyl]thio]- (9CI) (CA INDEX NAME)

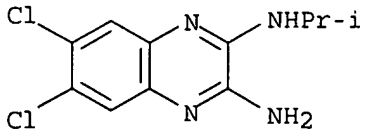


RN 281210-96-6 CAPLUS
CN Propanamide, 3-[[6,7-dichloro-3-(1-methylethyl)-8-nitro-2-quinoxalinyl]thio]-N-[2-(4-morpholinyl)ethyl]- (9CI) (CA INDEX NAME)



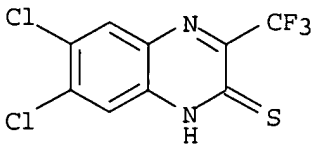
RN 281210-98-8 CAPLUS
CN 2,3-Quinoxalinediamine, 6,7-dichloro-N-(1-methylethyl)- (9CI) (CA INDEX

NAME)

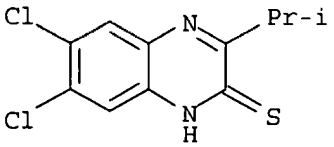


IT **281210-58-0P 281210-60-4P 281210-62-6P 281210-64-8P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of quinoxalines as non-peptide GLP-1 agonists)

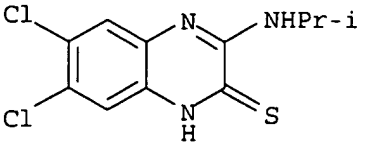
RN 281210-58-0 CAPLUS
CN 2(1H)-Quinoxalinethione, 6,7-dichloro-3-(trifluoromethyl)- (9CI) (CA INDEX NAME)



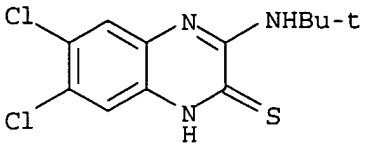
RN 281210-60-4 CAPLUS
CN 2(1H)-Quinoxalinethione, 6,7-dichloro-3-(1-methylethyl)- (9CI) (CA INDEX NAME)



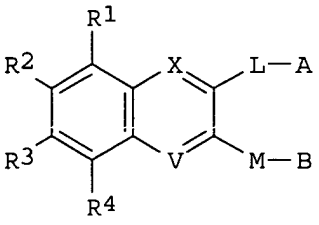
RN 281210-62-6 CAPLUS
CN 2(1H)-Quinoxalinethione, 6,7-dichloro-3-[(1-methylethyl)amino]- (9CI) (CA INDEX NAME)



RN 281210-64-8 CAPLUS
CN 2(1H)-Quinoxalinethione, 6,7-dichloro-3-[(1,1-dimethylethyl)amino]- (9CI) (CA INDEX NAME)



GI

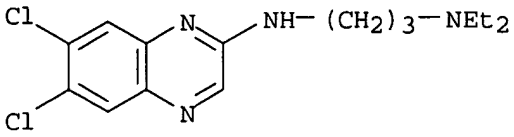


I

AB The title compds. I [R1, R2, R3, R4 independently = H, halogen, CN, CF3, NO2, OR5, lower alkyl, SR5, S(O2)NR5R6, etc (a proviso is given); A, B = H, halogen, OH, CF3, CF2CF3, CN, NO2, alkyl, alkenyl, etc; L, M = (CH2)mS(CH2)n, (CH2)mO(CH2)n, (CH2)mS(O)(CH2)n, (CH2)mS(O)2(CH2)n, etc; X, V = :N or :CD; D = H, halogen, CN, CF3, NO2, etc; m, n independently = 0, 1, 2, 3, or 4] useful as non-peptide GLP-1 agonists for the treatment and/or prevention of disorders and diseases wherein an activation of the human GLP-1 receptor is beneficial, esp. metabolic disorders such as Type 1 diabetes, Type 2 diabetes and obesity (no data), are prepd. Formulations are given.

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 8 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 2000:11834 CAPLUS
DN 132:175202
TI Novel dichloroquinoxaline CXCR receptor antagonists
AU Anon.
CS USA
SO Expert Opinion on Therapeutic Patents (2000), 10(1), 121-123
CODEN: EOTPEG; ISSN: 1354-3776
PB Ashley Publications
DT Journal; General Review
LA English
IT **106739-62-2D**, derivs.
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(novel dichloroquinoxaline CXCR receptor antagonists)
RN 106739-62-2 CAPLUS
CN 1,3-Propanediamine, N'-(6,7-dichloro-2-quinoxalinyl)-N,N-diethyl- (9CI) (CA INDEX NAME)



AB A review with 9 refs. Novel 2-(alkylaminoalkyl)amino-3-aryl-6,7-dichloroquinoxalines are claimed that act as selective antagonists of IL-8. Specified examples inhibit IL-8 induced chemotaxis of human neutrophils with IC50 values in the 80 to 400 nM range. Such compds. provide a novel class of anti-inflammatory agents esp. suitable for the treatment of neutrophil mediated inflammatory diseases.

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 9 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1999:784084 CAPLUS
DN 132:22977
TI Preparation of (cyanoimino)quinoxaline derivatives as antagonists of glutamate receptors
IN Takada, Susumu; Chomei, Nobuo; Kihara, Tsuyoshi
PA Shionogi & Co., Ltd., Japan
SO PCT Int. Appl., 46 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9962887	A1	19991209	WO 1999-JP2822	19990528
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
			JP 1998-151017 A	19980601
CA 2333515	AA	19991209	CA 1999-2333515	19990528
			JP 1998-151017 A	19980601
			WO 1999-JP2822 W	19990528
AU 9939553	A1	19991220	AU 1999-39553	19990528
AU 744274	B2	20020221		
			JP 1998-151017 A	19980601
			WO 1999-JP2822 W	19990528
BR 9910859	A	20010313	BR 1999-10859	19990528
			JP 1998-151017 A	19980601
			WO 1999-JP2822 W	19990528
EP 1097927	A1	20010509	EP 1999-922540	19990528
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
			JP 1998-151017 A	19980601
			WO 1999-JP2822 W	19990528
JP 3231338	B2	20011119	JP 1999-556548	19990528
			JP 1998-151017 A	19980601

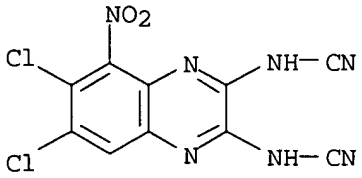
			WO 1999-JP2822 W 19990528
NZ 508280	A	20020927	NZ 1999-508280 19990528
			JP 1998-151017 A 19980601
			WO 1999-JP2822 W 19990528
NO 2000006065	A	20010131	NO 2000-6065 20001129
			JP 1998-151017 A 19980601
			WO 1999-JP2822 W 19990528
US 6525054	B1	20030225	US 2000-701383 20001201
			JP 1998-151017 A 19980601
			WO 1999-JP2822 W 19990528

OS MARPAT 132:22977

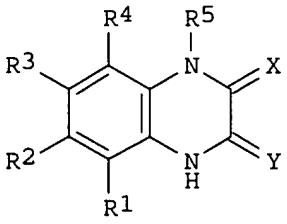
IT **251918-96-4P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of (cyanoimino)quinoxaline derivs. as antagonists of glutamate receptors for treatment of cerebral apoplexy)

RN 251918-96-4 CAPLUS

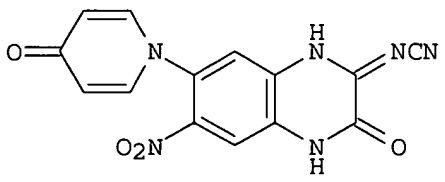
CN Cyanamide, (6,7-dichloro-5-nitro-2,3-quinoxalinediyl)bis- (9CI) (CA INDEX NAME)



GI



I



II

AB Cyanoiminoquinoxaline derivs. represented by general formula (I; wherein X and Y are each independently O or :NCN, provided at least either of X and Y is :NCN; R1, R2, R3 and R4 are each independently hydrogen, halogeno, nitro, an optionally substituted heterocyclic group or the like; and R5 is hydrogen or the like, or alternatively R1 and R2, R2 and R3, R3 and R4, and R4 and R5 each together with the atoms adjacent thereto may form a carbocycle which may be substituted or contain a heteroatom), which exhibit antagonism against glutamate receptors, in particular NMDA (N-methyl-D-aspartic acid) receptor and AMPA [2-amino-3-(3-hydroxy-5-methylisoxazol-4-yl)propanoic acid] receptor without kidney toxicity and are useful as preventive or therapeutic agents for diseases due to hyperexcitation of glutamate receptors (in particular cerebral apoplexy) are prepd. Thus, 2-(cyanoimino)-1,4-dihydro-7-fluoro-6-nitro-3-quinoxaline disodium salt and 4-hydroxypyridine were added to DMSO and

heated with stirring at 130.degree. for 3 h and dild. with water under ice-cooling and acidified to pH 3 with 1 N HCl to give the title compd. (II) which was converted to the Na salt. II.Na in vitro inhibited the binding of 3H-AMPA and 3H-glycine to homogenized rat cerebral cortex with IC50 of 0.034 and 7.5 .mu.M, resp.

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 10 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1999:549272 CAPLUS
DN 131:170359
TI Preparation of substituted quinoxaline derivatives as interleukin-8 receptor antagonists
IN Carson, Kenneth G.; Connor, David Thomas; Li, Jie Jack; Low, Joseph Edwin; Luly, Jay R.; Miller, Steven Robert; Roth, Bruce David; Trivedi, Bharat Kalidas
PA Warner-Lambert Company, USA
SO PCT Int. Appl., 200 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9942463	A1	19990826	WO 1999-US2581	19990205
	W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
				US 1998-75551P P	19980223
	AU 9926603	A1	19990906	AU 1999-26603	19990205
				US 1998-75551P P	19980223
				WO 1999-US2581 W	19990205
	ZA 9901413	A	19990830	ZA 1999-1413	19990222
				US 1998-75551P P	19980223

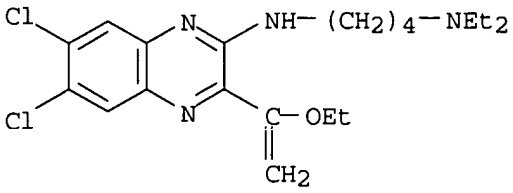
PATENT FAMILY INFORMATION:
FAN 1999:549270

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9942461	A1	19990826	WO 1998-US26707	19981215
	W: AL, AU, BA, BB, BG, BR, CA, CN, CU, CZ, EE, GE, HR, HU, ID, IL, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
				US 1998-75551P P	19980223
	AU 9919182	A1	19990906	AU 1999-19182	19981215
				US 1998-75551P P	19980223
				WO 1998-US26707W	19981215
	ZA 9901413	A	19990830	ZA 1999-1413	19990222
				US 1998-75551P P	19980223

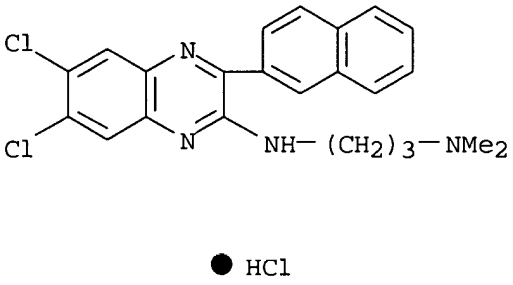
OS MARPAT 131:170359
IT **239094-95-2P 239095-04-6P 239095-38-6P**

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of substituted quinoxaline derivs. as interleukin receptor antagonists)

RN 239094-95-2 CAPLUS
CN 1,4-Butanediamine, N'-[6,7-dichloro-3-(1-ethoxyethenyl)-2-quinoxalinyl]-N,N-diethyl- (9CI) (CA INDEX NAME)

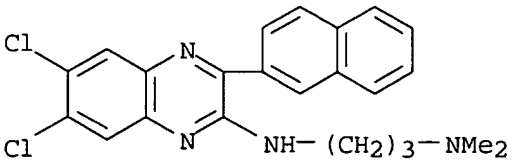


RN 239095-04-6 CAPLUS
CN 1,3-Propanediamine, N'-[6,7-dichloro-3-(2-naphthalenyl)-2-quinoxalinyl]-N,N-dimethyl-, monohydrochloride (9CI) (CA INDEX NAME)

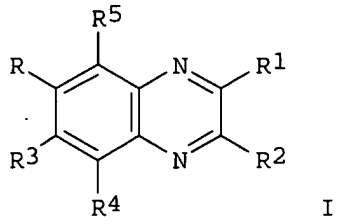


● HCl

RN 239095-38-6 CAPLUS
CN 1,3-Propanediamine, N'-[6,7-dichloro-3-(2-naphthalenyl)-2-quinoxalinyl]-N,N-dimethyl- (9CI) (CA INDEX NAME)



GI



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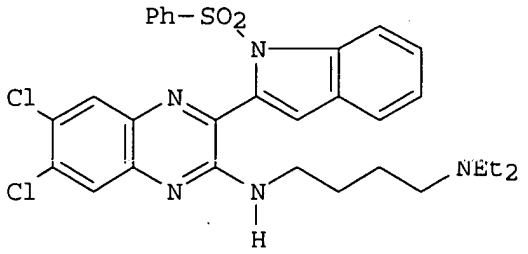


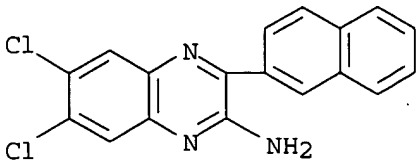
II

AB Title compds. [I; R = H, Cl, F; R-R3 = CH2CH2CH2; R1 = 2-pyridyl, 2-thienyl, 2-furyl, 5-methyl-2-furyl, C(:CH2)OEt, 2-thienyl-2-thienyl, 5-chloro-2-thienyl, 5-methoxy-2-thienyl, 5-propyl-2-thienyl, 2-naphthyl, 5-phenyl-2-thienyl, OMe; R2 = 4-HNCH(CH2)2CH(CH2CH2)NMe2, 4-Et2NCH2C6H4NH, Me2N(CH2)3NH, Me2(CH2)4NH, Et2(CH2)4NH; R3 = Cl, F, H, CF3; R4 = H, NO2; R5 = H, Cl] are described as well as methods for the prepn. and pharmaceutical compns. of same, which are useful as interleukin-8 (IL-8) receptor antagonists and can be used in the treatment of a chemokine-mediated disease wherein the chemokine binds to an IL-8a (CXCR1) or b (CXCR2) receptor such as a chemokine-mediated disease selected from psoriasis, or atopic dermatitis, disease assocd. with pathol. angiogenesis (i.e. cancer), asthma, chronic obstructive pulmonary disease, adult respiratory distress syndrome, arthritis, inflammatory bowel disease, Crohn's disease, ulcerative colitis, gastric ulcer, septic shock, endotoxic shock, gram-neg. sepsis, toxic shock syndrome, stroke, cardiac and renal reperfusion injury, glomerulo-nephritis, or thrombosis, Alzheimer's disease, graft vs. host reaction, allograft rejections, or allergic diseases. The title compd. I () was prepd.

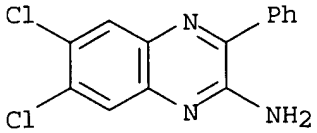
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 11 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1999:363560 CAPLUS
DN 131:116212
TI Synthesis of 3-aryl and 3-heterocyclic quinoxalin-2-ylamines via Pd-catalyzed cross-coupling reactions
AU Li, Jie Jack; Yue, Wen Song
CS Medicinal Chemistry Department, Parke-Davis Pharmaceutical Research Division, Warner-Lambert Company, Ann Arbor, MI, 48105, USA
SO Tetrahedron Letters (1999), 40(24), 4507-4510
CODEN: TELEAY; ISSN: 0040-4039
PB Elsevier Science Ltd.
DT Journal
LA English
IT **232604-15-8P 232604-16-9P 232604-18-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(3-aryl and 3-heterocyclic quinoxalin-2-ylamines via Pd-catalyzed

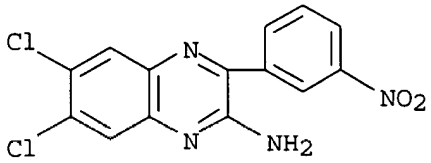
cross-coupling reactions)
RN 232604-15-8 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-3-(2-naphthalenyl)- (9CI) (CA INDEX NAME)



RN 232604-16-9 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-3-phenyl- (9CI) (CA INDEX NAME)



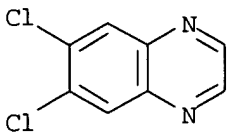
RN 232604-18-1 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-3-(3-nitrophenyl)- (9CI) (CA INDEX NAME)



AB Facile and high yielding Suzuki and Stille cross-coupling reactions of 3-bromoquinoxalin-2-ylamines were developed to synthesize a variety of novel and diversely functionalized 3-aryl and 3-heterocyclic quinoxalin-2-ylamines. The prepn. of the substrates and the remarkable impact that substituents have on the regiochem. outcome are discussed.
RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

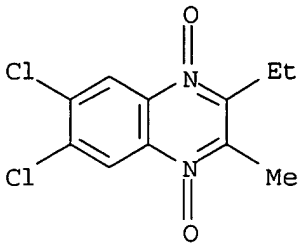
L4 ANSWER 12 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1999:206733 CAPLUS
DN 131:18980
TI Elemental fluorine. Part 10. Selective fluorination of pyridine, quinoline and quinoxaline derivatives with fluorine-iodine mixtures
AU Chambers, Richard D.; Parsons, Mandy; Sandford, Graham; Skinner, Christopher J.; Atherton, Malcolm J.; Moilliet, John S.
CS Department of Chemistry, University of Durham, Durham, DH1 3LE, UK
SO Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1999), (7), 803-810
CODEN: JCPRB4; ISSN: 0300-922X
PB Royal Society of Chemistry
DT Journal
LA English

OS CASREACT 131:18980
IT **19853-64-6P**, 6,7-Dichloroquinoxaline
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and attempted fluorination of)
RN 19853-64-6 CAPLUS
CN Quinoxaline, 6,7-dichloro- (8CI, 9CI) (CA INDEX NAME)

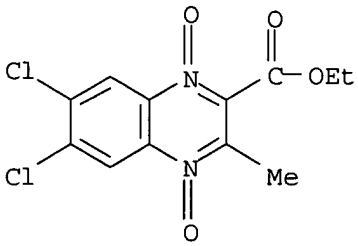


AB Selective fluorination of a range of pyridine and quinoline substrates to give corresponding 2-fluoro derivs. can be readily achieved in high yield at room temp. using elemental fluorine-iodine mixts. Reaction of fluorine with iodine forms, in situ, systems that function like sources of both iodonium and fluoride ions and fluorination of heterocyclic derivs. is suggested to proceed by fluoride ion attack on intermediate N-iodo heterocyclic species. Quinoxaline derivs. react under similar conditions to give either the 2-fluoro- or 2,3-difluoroquinoxaline derivs., depending on the ratio of fluorine passed through the soln. In related processes, pyridine can be alkoxylated upon reaction of an appropriate alc. and fluorine.
RE.CNT 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

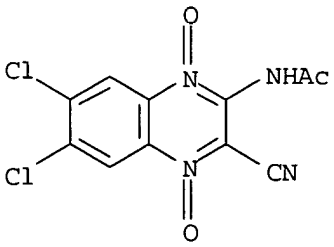
L4 ANSWER 13 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1999:142480 CAPLUS
DN 130:276242
TI New quinoxaline 1,4-di-N-oxides for treatment of tuberculosis
AU Sainz, Yolanda; Montoya, Maria Elena; Martinez-Crespo, Francisco Javier; Ortega, Miguel Angel; Lopez de Cerain, Adela; Monge, Antonio
CS Centro Investigacion Farmacobiologia Aplicada, Universidad Navarra, Pamplona, E-31080, Spain
SO Arzneimittel-Forschung (1999), 49(1), 55-59
CODEN: ARZNAD; ISSN: 0004-4172
PB Editio Cantor Verlag
DT Journal
LA English
IT **222846-29-9P 222846-37-9P 222846-43-7P**
222846-61-9P
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(new quinoxaline 1,4-di-N-oxides for treatment of tuberculosis)
RN 222846-29-9 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-ethyl-3-methyl-, 1,4-dioxide (9CI) (CA INDEX NAME)



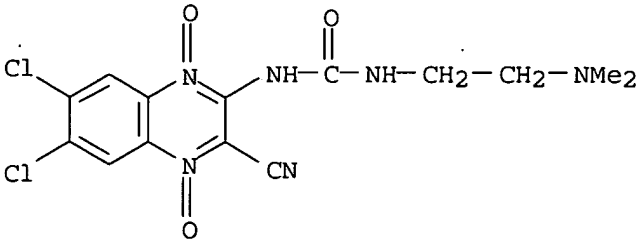
RN 222846-37-9 CAPLUS
CN 2-Quinoxalinecarboxylic acid, 6,7-dichloro-3-methyl-, ethyl ester, 1,4-dioxide (9CI) (CA INDEX NAME)



RN 222846-43-7 CAPLUS
CN Acetamide, N-(6,7-dichloro-3-cyano-1,4-dioxido-2-quinoxalinyl)- (9CI) (CA INDEX NAME)

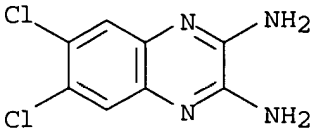


RN 222846-61-9 CAPLUS
CN Urea, N-(6,7-dichloro-3-cyano-1,4-dioxido-2-quinoxalinyl)-N'-[2-(dimethylamino)ethyl]- (9CI) (CA INDEX NAME)



AB Some quinoxaline 1,4-di-N-oxides derivs. with very different substituents in 2, 3, 6, and 7 positions were synthesized to obtain new hypoxia selective agents. Some of these products were tested as antituberculosis agents and very interesting results were obtained from the 1st screening.
RE.CNT 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 14 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1998:550899 CAPLUS
DN 129:276185
TI Synthesis of imidazo[4,5-b]quinoxaline ribonucleosides as linear dimensional analogs of antiviral polyhalogenated benzimidazole ribonucleosides
AU Zhu, Zhijian; Saluja, Sunita; Drach, John C.; Townsend, Leroy B.
CS Department of Chemistry, University of Michigan, Ann Arbor, MI, 48109-1065, USA
SO Journal of the Chinese Chemical Society (Taipei) (1998), 45(4), 465-474
CODEN: JCCTAC; ISSN: 0009-4536
PB Chinese Chemical Society
DT Journal
LA English
IT **192075-86-8P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of imidazoquinoxaline ribonucleosides as linear dimensional analogs of antiviral polyhalogenated benzimidazole ribonucleosides)
RN 192075-86-8 CAPLUS
CN 2,3-Quinoxalinediamine, 6,7-dichloro- (9CI) (CA INDEX NAME)



AB We have recently found that 2,5,6-trichloro-1-(.beta.-D-ribofuranosyl)benzimidazole (TCRB) and the corresponding 2-bromo analog have better in vitro activities against HCMV than the clin. used agents ganciclovir and foscarnet. These benzimidazole nucleosides act by a unique mechanism, however, their biol. target has not been completely identified. As an approach to probing the target, we have designed imidazo[4,5-b]quinoxaline nucleosides as linear dimensional analogs of the benzimidazole nucleosides to study the spatial limitation of the binding site in the target enzyme. A convenient route was developed for the synthesis of 2-substituted 6,7-dichloroimidazo[4,5-b]quinoxalines involving a reaction of 2,3,6,7- tetrachloroquinoxaline with ammonia followed by a ring annulation as the key step. This furnished the versatile heterocycle 6,7-dichloroimidazo[4,5-b]quinoxalin-2-one. Ribosylation of 2-substituted imidazo[4,5- b]quinoxalines was influenced by the functional group at the 2-position and the 2-one compd. was found to smoothly undergo ribosylation. The 2-one group of the nucleoside was converted into specifically selected 2-substituted compds. Evaluation of the compds. for activity against two herpes viruses and for cytotoxicity showed they were less active and/or more cytotoxic than TCRB. We conclude therefore, that the binding pocket on the protein target of TCRB will tolerate some electronic and size changes.

RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

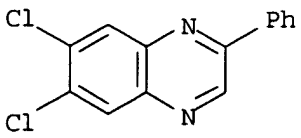
L4 ANSWER 15 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1998:534888 CAPLUS
DN 129:156926
TI Methods and compositions using receptor tyrosine kinase inhibitors for inhibiting cell proliferative disorders, and inhibitor preparation
IN Chen, Hui; Gazit, Aviv; Hirth, Klaus Peter; Mann, Elaina; Shawver, Laura K.; Tsai, Jianming; Tang, Peng Cho
PA Sugen, Inc., USA; Yissum Research & Development Company of the Hebrew University of Jerusalem
SO U.S., 41 pp., Cont.-in-part of U.S. Ser. No. 207,933, abandoned.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5789427	A	19980804	US 1995-399967	19950307
				US 1994-207933	19940307
	US 5773476	A	19980630	US 1995-486775	19950607
				US 1994-207933	19940307
				US 1995-399967	19950307

PATENT FAMILY INFORMATION:
FAN 1995:926425

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9524190	A2	19950914	WO 1995-US2826	19950306
	WO 9524190	A3	19951109		
	W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TT, UA				
	RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
				US 1994-207933	19940307
	AU 9520968	A1	19950925	AU 1995-20968	19950306
				US 1994-207933	19940307
				WO 1995-US2826	19950306

OS MARPAT 129:156926
IT **71896-95-2P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(receptor tyrosine kinase inhibitors, and prepn. thereof, for inhibiting cell proliferative disorders)
RN 71896-95-2 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-phenyl- (9CI) (CA INDEX NAME)



AB The invention concerns compds. and their use to inhibit the activity of a receptor tyrosine kinase. The invention is preferably used to treat cell proliferative disorders, e.g. cancers characterized by over-activity or inappropriate activity HER2 or EGFR.
RE.CNT 90 THERE ARE 90 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 16 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1998:424230 CAPLUS
DN 129:81730
TI Preparation of (hetero)arylacrylates as modulators of proteins with phosphotyrosine recognition units.
IN Mjalli, Adnan; Sarshar, Sepehr; Cao, Xiaodong; Bakir, Farid
PA Ontogen Corp., USA
SO PCT Int. Appl., 202 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 3

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9827065	A1	19980625	WO 1996-US20508	19961216
W: AU, CA, JP				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9715667	A1	19980715	AU 1997-15667	19961216
AU 740425	B2	20011101		
			US 1995-543630 A	19951016
			WO 1996-US20508W	19961216
EP 946518	A1	19991006	EP 1996-945409	19961216
R: CH, DE, ES, FR, GB, IT, LI, SE				
			WO 1996-US20508W	19961216
JP 2001506997	T2	20010529	JP 1998-527650	19961216
			WO 1996-US20508W	19961216

PATENT FAMILY INFORMATION:
FAN 1997:299627

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9708934	A2	19970313	WO 1996-US18401	19960619
WO 9708934	A3	19970424		
W: AU, CA, JP				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
			US 1995-17610P P	19950619
			US 1995-492264 A	19950619
			US 1995-543630 A	19951016
US 5770620	A	19980623	US 1995-543630	19951016
CA 2224874	AA	19970313	CA 1996-2224874	19960619
			US 1995-492264 A	19950619
			US 1995-543630 A	19951016
EP 833629	A2	19980408	EP 1996-940489	19960619
R: CH, DE, ES, FR, GB, IT, LI, SE				
			US 1995-492264 A	19950619
			US 1995-543630 A	19951016
			WO 1996-US18401W	19960619
JP 11508919	T2	19990803	JP 1996-511473	19960619
			US 1995-492264 A	19950619
			US 1995-543630 A	19951016
			WO 1996-US18401W	19960619
AU 9677358	A1	19970327	AU 1996-77358	19961024

	AU 713863	B2	19991209	US 1995-492264 A 19950619 US 1995-543630 A 19951016 WO 1996-US18401W 19960619
	US 6388076	B1	20020514	US 2000-645785 20000824 US 1995-17610P P 19950619 US 1995-543630 A319951016

FAN 1998:324829

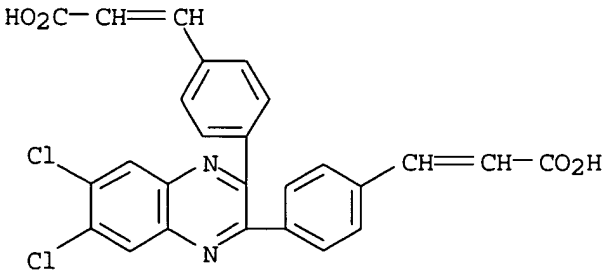
	PATENT NO.	KIND	DATE	APPLICATION NO. DATE
PI	US 5753687	A	19980519	US 1996-766114 19961216 US 1995-543630 A219951016
	US 5770620	A	19980623	US 1995-543630 19951016
	US 5965558	A	19991012	US 1997-960637 19971029 US 1995-543630 A219951016 US 1996-766114 A319961216
	US 6150532	A	20001121	US 1998-210076 19981211 US 1995-17610P P 19950619 US 1995-543630 A219951019 US 1996-766114 A319961216 US 1997-960637 A319971029
	US 2002183518	A1	20021205	US 2001-995550 20011127 US 1995-17610P P 19950619 US 1995-543630 A319951016 US 1996-766114 A219961216 US 1997-960637 A319971029 US 1998-210076 A319981211 US 2000-645785 A120000824

OS MARPAT 129:81730

IT **207866-13-5P 207866-14-6P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of (hetero)arylacrylates as modulators of proteins with phosphotyrosine recognition units)

RN 207866-13-5 CAPLUS

CN 2-Propenoic acid, 3,3'-[(6,7-dichloro-2,3-quinoxalinediyl)di-4,1-phenylene]bis- (9CI) (CA INDEX NAME)



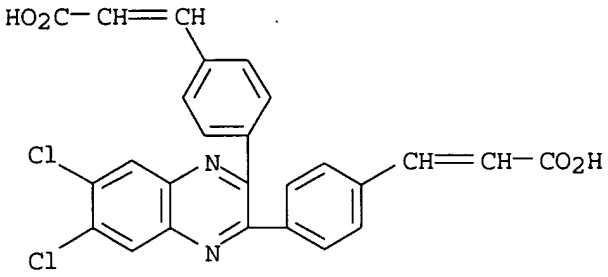
RN 207866-14-6 CAPLUS

CN 2-Propenoic acid, 3,3'-[(6,7-dichloro-2,3-quinoxalinediyl)di-4,1-phenylene]bis-, mono(trifluoroacetate) (9CI) (CA INDEX NAME)

CM 1

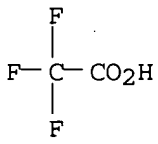
CRN 207866-13-5

CMF C26 H16 Cl2 N2 O4

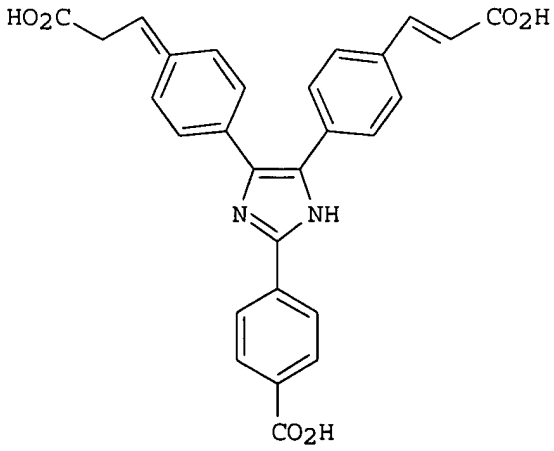


CM 2

CRN 76-05-1
CMF C2 H F3 O2



GI



I

AB YXC(R'):C(R")CO2R''' [R', R'' = H, halo, cyano, NO2, trihalomethyl, alkyl, arylalkyl; R''' = H, (substituted) alkyl, aryl, arylalkyl; X = aryl; Y = H, (substituted) CO2CHCO, COCO, COCHOH, imidazolyl, thiazolyl, oxazolyl, quinoxalinyl, pyridopyrazinyl, etc.], were prepd. Thus, title compd. (I) (general prepn. given) inhibited protein tyrosine phosphatase 1B with IC50 = 0.072 .mu.M.

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 17 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1998:324829 CAPLUS
DN 129:27943
TI Preparation of heterocyclic compounds as modulators of proteins with phosphotyrosine recognition units
IN Mjalli, Adnan; Sarshar, Sepehr; Cao, Xiaodong; Bakir, Farid
PA Ontogen Corp., USA
SO U.S., 50 pp., Cont.-in-part of U.S. Ser. No. 543,630.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5753687	A	19980519	US 1996-766114	19961216
				US 1995-543630 A2	19951016
	US 5770620	A	19980623	US 1995-543630	19951016
	US 5965558	A	19991012	US 1997-960637	19971029
				US 1995-543630 A2	19951016
				US 1996-766114 A3	19961216
	US 6150532	A	20001121	US 1998-210076	19981211
				US 1995-17610P P	19950619
				US 1995-543630 A2	19951019
				US 1996-766114 A3	19961216
				US 1997-960637 A3	19971029
	US 2002183518	A1	20021205	US 2001-995550	20011127
				US 1995-17610P P	19950619
				US 1995-543630 A3	19951016
				US 1996-766114 A2	19961216
				US 1997-960637 A3	19971029
				US 1998-210076 A3	19981211
				US 2000-645785 A1	20000824

PATENT FAMILY INFORMATION:
FAN 1997:299627

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9708934	A2	19970313	WO 1996-US18401	19960619
	WO 9708934	A3	19970424		
	W: AU, CA, JP				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
				US 1995-17610P P	19950619
				US 1995-492264 A	19950619
				US 1995-543630 A	19951016
	US 5770620	A	19980623	US 1995-543630	19951016
	CA 2224874	AA	19970313	CA 1996-2224874	19960619
				US 1995-492264 A	19950619
				US 1995-543630 A	19951016
	EP 833629	A2	19980408	EP 1996-940489	19960619
	R: CH, DE, ES, FR, GB, IT, LI, SE				
				US 1995-492264 A	19950619
				US 1995-543630 A	19951016
				WO 1996-US18401W	19960619
	JP 11508919	T2	19990803	JP 1996-511473	19960619
				US 1995-492264 A	19950619
				US 1995-543630 A	19951016

				WO 1996-US18401W 19960619
	AU 9677358	A1	19970327	AU 1996-77358 19961024
	AU 713863	B2	19991209	
				US 1995-492264 A 19950619
				US 1995-543630 A 19951016
				WO 1996-US18401W 19960619
	US 6388076	B1	20020514	US 2000-645785 20000824
				US 1995-17610P P 19950619
				US 1995-543630 A319951016

FAN 1998:424230

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9827065	A1	19980625	WO 1996-US20508	19961216
	W: AU, CA, JP				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	AU 9715667	A1	19980715	AU 1997-15667	19961216
	AU 740425	B2	20011101		
				US 1995-543630 A	19951016
				WO 1996-US20508W	19961216
	EP 946518	A1	19991006	EP 1996-945409	19961216
	R: CH, DE, ES, FR, GB, IT, LI, SE				
				WO 1996-US20508W	19961216
	JP 2001506997	T2	20010529	JP 1998-527650	19961216
				WO 1996-US20508W	19961216

OS MARPAT 129:27943

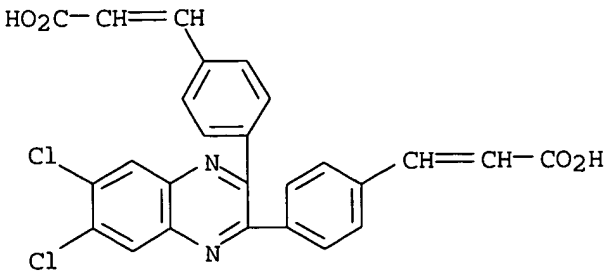
IT **207866-14-6P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of heterocyclic compds. as modulators of proteins with phosphotyrosine recognition units)

RN 207866-14-6 CAPLUS

CN 2-Propenoic acid, 3,3'-[(6,7-dichloro-2,3-quinoxalinediyl)di-4,1-phenylene]bis-, mono(trifluoroacetate) (9CI) (CA INDEX NAME)

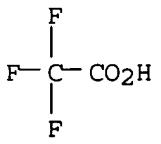
CM 1

CRN 207866-13-5
CMF C26 H16 Cl2 N2 O4

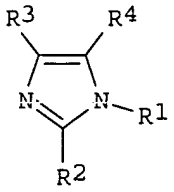


CM 2

CRN 76-05-1
CMF C2 H F3 O2



GI

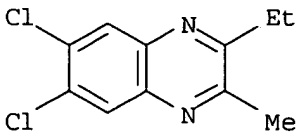


I

AB The title compds. I [at least one of R1 - R4 is XC(R'):C(R'')CO2R'''; R', R'' = H, halo, etc.; R''' = H, alkyl, etc.; X = mono-, di-, or trisubstituted aryl; the remaining of R1, R2, R3, R4 are independently selected from H, alkyl, etc.] are prepd. The title compds. in vitro showed IC50 values of 0.072 .mu.M to 31 .mu.M against PTP1B.

RE.CNT 78 THERE ARE 78 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 18 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1998:258146 CAPLUS
DN 129:27125
TI Quantitative analysis of diacetyl, pentanedione and their precursors during beer fermentation by an accurate GC/MS method
AU Landaud, Sophie; Lieben, Pascale; Picque, Daniel
CS Laboratoire de Genie et Microbiologie des Procedes Alimentaires INRA, Thiverval-Grignon, F-78850, Fr.
SO Journal of the Institute of Brewing (1998), 104(2), 93-99
CODEN: JINBAL; ISSN: 0046-9750
PB Institute of Brewing
DT Journal
LA English
IT **208117-51-5**
RL: ARU (Analytical role, unclassified); ANST (Analytical study)
(quant. anal. of diacetyl, pentanedione and their precursors during beer fermn. by an accurate GC/MS method)
RN 208117-51-5 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-ethyl-3-methyl- (9CI) (CA INDEX NAME)



AB A GC/MS method previously described for diacetyl was developed for the

quantification of 2,3-pentanedione, and the derivatization procedure was modified for the detn. of .alpha.-acetohydroxy acid. The reaction of 2,3-pentanedione with 4,5-dichloro-1,2-diaminobenzene produced 6,7-dichloro-2-methyl-3-ethylquinoxaline (DCMEQ), which was extd. with toluene and detd. by gas chromatog. using a mass selective detector. The formation of DCMEQ was linearly correlated with the 2,3-pentanedione concn. The method was very simple and sensitive. The detection limit of the 2,3-pentanedione deriv. and diacetyl deriv. was 0.0007 mg/L and 0.0002 mg/L of the toluene ext. resp., and the detn. limit was 0.001 mg/L and 0.0007 mg/L, resp. Cautious sample treatment led to a low (10%) and controlled conversion of .alpha.-acetohydroxy acids to vicinal diketones. This reproducible percentage of conversion made it possible to det. precisely free vicinal diketones and .alpha.-acetohydroxy acids. The method was applied to the detn. of precursors and vicinal diketones concns. during beer fermn.

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 19 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1997:467735 CAPLUS
DN 127:95295
TI Preparation of 3-aminoquinoxaline-2-one compounds having activity at the glycine binding site of the N-methyl-D-aspartate (NMDA)-receptor
IN Bata, Imre; Batori, Sandor; Bence, Judit; Bocskei, Zsolt; Csikos, Eva; Erdo, Sandor; Gonczi, Csaba; Hermecz, Istvan; Heja, Gergely; Lakics, Viktor; Majlath, Csilla; Molnar, Peter; Podanyi, Benjamin; Ritz, Imola; Santane, Csutor Andrea; Szokene, Szappanos Andrea; Szvoboda, Gyorgyne; et al.
PA Chinoin Gyogyszer Es Vegyeszeti Termekek Gyara Rt.To U. 1-5h-1045 Budapest, Hung.; Batori, Sandor; Bence, Judit
SO PCT Int. Appl., 30 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

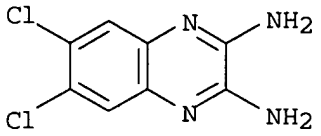
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9719934	A1	19970605	WO 1996-HU72	19961128
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
			HU 1995-3422 A	19951130
HU 76302	A2	19970728	HU 1995-3422	19951130
ZA 9610002	A	19970613	ZA 1996-10002	19961128
			HU 1995-3422 A	19951130
AU 9677053	A1	19970619	AU 1996-77053	19961128
			HU 1995-3422 A	19951130
			WO 1996-HU72 W	19961128

OS MARPAT 127:95295
IT **192075-86-8P 192075-93-7P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(prepn. of aminoquinoxalineone compds. having activity at glycine binding site of NMDA receptor as disease therapy)

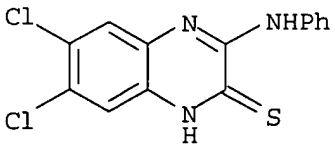
RN 192075-86-8 CAPLUS

CN 2,3-Quinoxalinediamine, 6,7-dichloro- (9CI) (CA INDEX NAME)

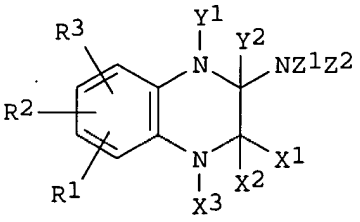


RN 192075-93-7 CAPLUS

CN 2(1H)-Quinoxalinethione, 6,7-dichloro-3-(phenylamino)- (9CI) (CA INDEX NAME)



GI

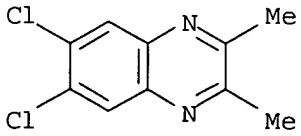


I

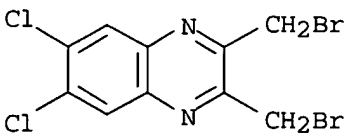
AB The invention relates to compds. of general formula (I; Z1 = hydrogen, hydroxy, C1-4 alkyl, C7-9 phenylalkyl, optionally substituted Ph, CO2-C1-4 alkyl, C2-14 acyl, C1-4 alkylsulfonyl, trifluoromethyl-sulfonyl, optionally substituted benzoyl, optionally substituted phenyl-sulfonyl group; Y1 = hydrogen, or optionally substituted amino group, or Y1 and Z1 form together a CO2 group, where Y2 and Z2 mean together a valency bond, or Y1 and Z2 mean together a valency bond, or Y1 and Y2 mean together a valency bond, and at the same time Z2 = hydrogen, hydroxy, C1-4 alkyl, C7-9 phenylalkyl, optionally substituted Ph, CO2C1-4 alkyl, C2-4 alkylsulfonyl, trifluoromethyl-sulfonyl, optionally substituted benzoyl, optionally substituted phenyl-sulfonyl group; X1 and X2 mean together O, or S, or X1 = hydrogen, NHR4 or WR5 groups, and at the same time X2 = hydrogen, or X2 and X3 together form a valency bond; X3 = hydrogen, C1-4, C7-9 phenylalkyl, optionally substituted Ph; R1, R2 = hydrogen, halogen, C1-4 alkyl, trifluoromethyl, cyano, mercapto or sulfonylamido group, R3 = hydrogen or nitro group; R4 = hydrogen or hydroxy group; R5 = hydrogen, C1-4 alkyl, C7-9 phenylalkyl group; W = oxygen or sulfur; some proviso given) and salts, tautomeric forms and N-oxides thereof. They show a significant activity at the glycine binding site of the NMDA-receptor and

therefore may have a significant neuroprotective effect which may play a therapeutic role in the treatment of Alzheimer disease, stroke, epilepsy, AIDS, and Parkinson's disease. 3-Lauroylamino-6,7-dichloro-8-nitroquinoxaline-2-one showed 54 IC50 of .mu.g/mL for inhibiting the binding of [3H]dichlorokinurenic acid (DCK) to homogenized rat cerebellum and brain stem (J. Pharma. Pharmacol., 44, 812-816, 1992) vs. 4,000 nM for 6-trifluoromethylquinoxaline-2,3-dione.

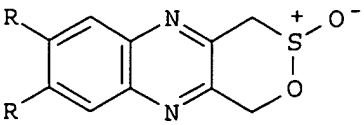
L4 ANSWER 20 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1997:120107 CAPLUS
DN 126:225271
TI Quinoxalino-fused sultines and their application in Diels-Alder reactions
AU Chung, Wen-Sheng; Liu, Jing-Horng
CS Dep. Appl. Chem., Natl. Chiao Tung Univ., Taichung, 30050, Taiwan
SO Chemical Communications (Cambridge) (1997), (2), 205-206
CODEN: CHCOFS; ISSN: 1359-7345
PB Royal Society of Chemistry
DT Journal
LA English
OS CASREACT 126:225271
IT **52736-71-7P**
RL: BYP (Byproduct); PREP (Preparation)
(prepn. and Diels-Alder reactions of quinoxalino-fused sultines)
RN 52736-71-7 CAPLUS
CN Quinoxaline, 6,7-chloro-2,3-dimethyl- (9CI) (CA INDEX NAME)



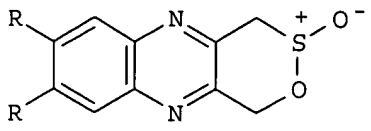
IT **3298-96-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and Diels-Alder reactions of quinoxalino-fused sultines)
RN 3298-96-2 CAPLUS
CN Quinoxaline, 2,3-bis(bromomethyl)-6,7-dichloro- (7CI, 8CI, 9CI) (CA INDEX NAME)



GI



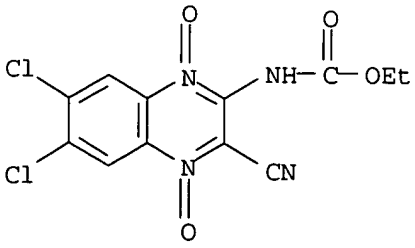
I



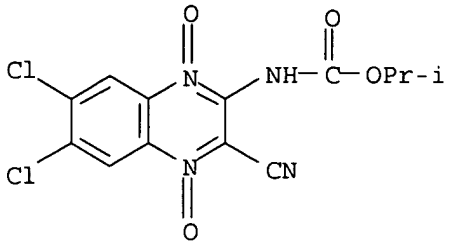
I

AB The synthesis of 7,8-disubstituted quinoxalino[2,3-d]-[1,2-.lambda.4]oxathiine 2-oxides I (R = H, Me, Cl), precursors for quinoxalino-o-quinodimethanes, and their application in the Diels-Alder reactions are reported.

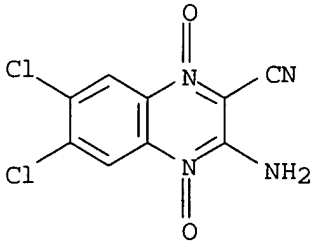
L4 ANSWER 21 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1997:81442 CAPLUS
DN 126:157473
TI 4-Cyano-2-oxo-1,2,4-oxadiazolo[2,3-a]quinoxaline 5-N-oxides. New synthetic method and reaction with alcohols. Potential cytotoxic activity
AU Martinez Crespo, F. J.; Palop, J. A.; Sainz, Y.; Narro, S.; Senador, V.; Gonzalez, M.; Lopez de Cerain, A.; Monge, A.; Hamilton, E.; Barker, A. J.
CS CIFA, Univ. Navarra, Pamplona, 31080, Spain
SO Journal of Heterocyclic Chemistry (1996), 33(6), 1671-1677
CODEN: JHTCAD; ISSN: 0022-152X
PB HeteroCorporation
DT Journal
LA English
IT **187028-88-2P 187028-94-0P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(prepn. of cytotoxic oxadiazolo[2,3-a]quinoxaline oxides)
RN 187028-88-2 CAPLUS
CN Carbamic acid, (6,7-dichloro-3-cyano-1,4-dioxido-2-quinoxalinyl)-, ethyl ester (9CI) (CA INDEX NAME)



RN 187028-94-0 CAPLUS
CN Carbamic acid, (6,7-dichloro-3-cyano-1,4-dioxido-2-quinoxalinyl)-, 1-methylethyl ester (9CI) (CA INDEX NAME)



IT **163777-36-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of cytotoxic oxadiazolo[2,3-a]quinoxaline oxides)
RN 163777-36-4 CAPLUS
CN 2-Quinoxalinecarbonitrile, 3-amino-6,7-dichloro-, 1,4-dioxide (9CI) (CA INDEX NAME)

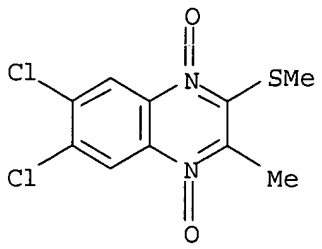


AB Several quinoxaline 1,4-di-N-oxides have been shown to be efficient and selective cytotoxins for hypoxic cells. A series of 4-cyano-2-oxo-1,2,4-oxadiazolo[2,3-a]quinoxaline 5-N-oxides (2) were prepd. starting from 3-amino-2-quinoxalinecarbonitrile 1,4-di-N-oxides and 2-chloroethyl isocyanate in dry dioxane at 100-110.degree.. Compds. 2 were heated in the presence of ethanol and 2-propanol giving the corresponding carbamates. Quinoxalines were tested as cytotoxic agents both in oxic and hypoxic cells. Electron-withdrawing substituents increased the potency and selectivity of the quinoxalines.

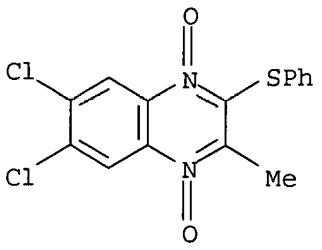
L4 ANSWER 22 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1996:618722 CAPLUS
DN 125:247851
TI Preparation of quinoxaline 1,4-dioxides as cytotoxic agents
IN Barker, Andy J.; Vega, Antonio Monge; Hamilton, Elizabeth
PA Zeneca Farma, S.A., Spain
SO Brit. UK Pat. Appl., 99 pp.
CODEN: BAXXDU
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2297089	A1	19960724	GB 1996-963	19960117
	GB 2297089	B2	19980826		
				ES 1995-76	19950117
	ES 2105959	A1	19971016	ES 1995-76	19950117

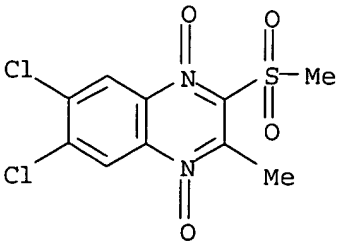
ES 2105959 B1 19980701
OS CASREACT 125:247851; MARPAT 125:247851
IT **170806-10-7P 170806-11-8P 170806-18-5P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(prepn. of quinoxaline 1,4-dioxides as cytotoxic agents)
RN 170806-10-7 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-methyl-3-(methylthio)-, 1,4-dioxide (9CI) (CA INDEX NAME)



RN 170806-11-8 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-methyl-3-(phenylthio)-, 1,4-dioxide (9CI) (CA INDEX NAME)



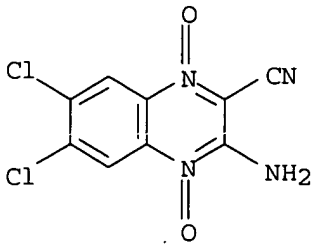
RN 170806-18-5 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-methyl-3-(methylsulfonyl)-, 1,4-dioxide (9CI) (CA INDEX NAME)



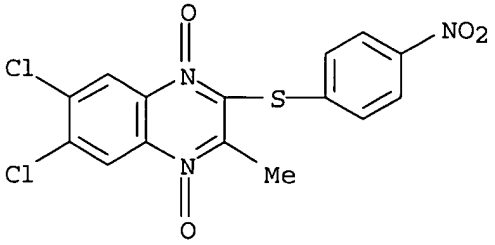
IT **163777-36-4P 170806-13-0P 170806-15-2P**
170806-16-3P 170806-19-6P 170806-22-1P

170806-24-3P 171880-71-0P 181758-51-0P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of quinoxaline 1,4-dioxides as cytotoxic agents)

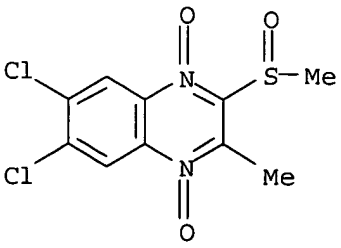
RN 163777-36-4 CAPLUS
CN 2-Quinoxalinecarbonitrile, 3-amino-6,7-dichloro-, 1,4-dioxide (9CI) (CA INDEX NAME)



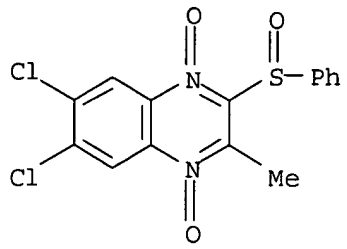
RN 170806-13-0 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-methyl-3-[(4-nitrophenyl)thio]-, 1,4-dioxide (9CI) (CA INDEX NAME)



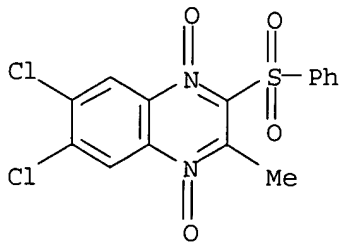
RN 170806-15-2 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-methyl-3-(methylsulfinyl)-, 1,4-dioxide (9CI) (CA INDEX NAME)



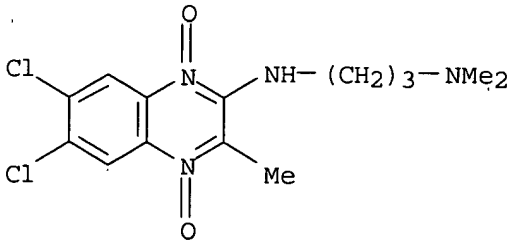
RN 170806-16-3 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-methyl-3-(phenylsulfinyl)-, 1,4-dioxide (9CI) (CA INDEX NAME)



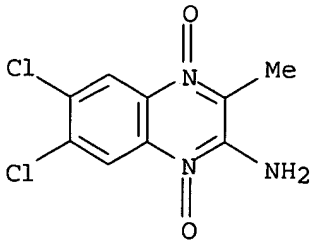
RN 170806-19-6 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-methyl-3-(phenylsulfonyl)-, 1,4-dioxide (9CI) (CA INDEX NAME)



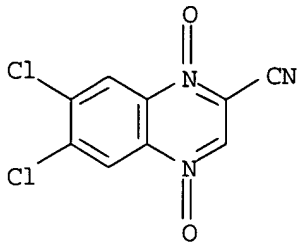
RN 170806-22-1 CAPLUS
CN 1,3-Propanediamine, N'-(6,7-dichloro-3-methyl-1,4-dioxido-2-quinoxalinyl)-N,N-dimethyl- (9CI) (CA INDEX NAME)



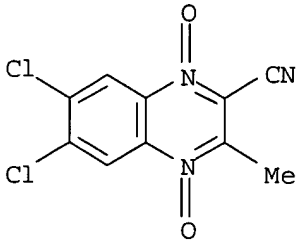
RN 170806-24-3 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-3-methyl-, 1,4-dioxide (9CI) (CA INDEX NAME)



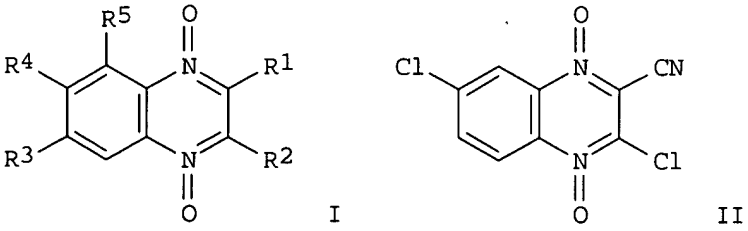
RN 171880-71-0 CAPLUS
CN 2-Quinoxalinecarbonitrile, 6,7-dichloro-, 1,4-dioxide (9CI) (CA INDEX NAME)



RN 181758-51-0 CAPLUS
CN 2-Quinoxalinecarbonitrile, 6,7-dichloro-3-methyl-, 1,4-dioxide (9CI) (CA INDEX NAME)



GI



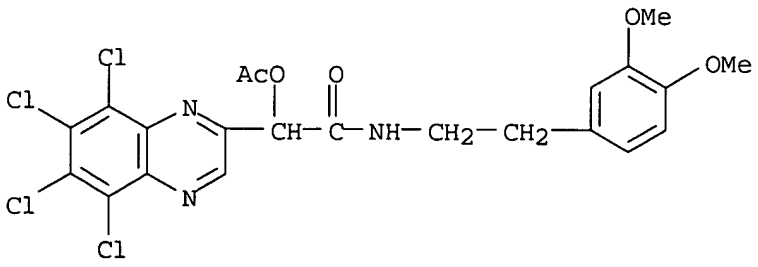
AB The title compds. [I; R1 = H, CN, C1-4 alkyl, etc.; R2 = NH-C1-6 alkyl-N(A1)(A2) (wherein A1, A2 = H,, C1-4 alkyl, etc.), etc.; R3, R4 = H, halo, CF3, etc.; R5 = H, NO2], useful as cytotoxic agents with selective activity in hypoxic cells, both in vitro and in vivo, were prepd. Reaction of the quinoxalinecarbonitrile 1,4-dioxide II with H2N(CH2)3NMe2 in the presence of K2CO3 in CH2Cl2 afforded 85% I.HCl [R1 = CN; R2 = NH(CH2)3NMe2; R3 = R5 = H; R4 = Cl] which, in hypoxia, kills 99% of the cells (Potency = 0.4) at 0.4 .mu.M while under odic conditions, a 250 fold greater concn. is needed to obtain the same percentage of cell damage (HCR = 250).

L4 ANSWER 23 OF 100 CAPLUS COPYRIGHT 2003 ACS

AN 1996:485780 CAPLUS
DN 125:142763
TI Heterocyclyl substituted hydroxyacetamide derivatives as fungicides
IN Doeller, Uwe; Braun, Peter; Sachse, Burkhard; Reissel, Willy; Ort, Oswald Peter Gerald; Hough, Thomas Lawley; Simpson, Donald James; Lindner, Kerstin; Lindell, Stephen David
PA Agrevo UK Ltd., UK
SO PCT Int. Appl., 39 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 9617840	A1	19960613	WO 1995-GB2849	19951206
W: AU, BG, BR, CA, CN, CZ, FI, HU, JP, KR, KZ, MX, NO, NZ, PL, RO, RU, SD, SK, UA, US				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
			GB 1994-24553	19941206
			GB 1994-25971	19941222
			GB 1995-2865	19950214
AU 9642655	A1	19960626	AU 1996-42655	19951206
			GB 1994-24553	19941206
			GB 1994-25971	19941222
			GB 1995-2865	19950214
			WO 1995-GB2849	19951206

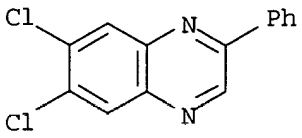
OS MARPAT 125:142763
IT **179759-02-5P**
RL: AGR (Agricultural use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of heterocyclyl substituted hydroxyacetamide derivs. as fungicides)
RN 179759-02-5 CAPLUS
CN 2-Quinoxalineacetamide, .alpha.-(acetyloxy)-5,6,7,8-tetrachloro-N-[2-(3,4-dimethoxyphenyl)ethyl]- (9CI) (CA INDEX NAME)



AB Title compds. QZR1CEWY (Q = optionally substituted heterocyclyl; Z = optionally substituted hydroxy or mercapto; E = CONR2, CSNR2, C(:N)SR2; W = O, NR3, optionally substituted methylene or ethylene; R1, R2, R3 = Ph or alkyl, each of which is optionally substituted, or hydrogen; Y = Ph, heteroaryl or alkyl, each of which is optionally substituted, or hydrogen), useful as fungicides, were prepd. Thus, redn. of 2-(3,5-dichloro-2-thienyl)-N-[2-(3,4-dimethoxyphenyl)ethyl]-2-oxoacetamide with NaBH4 gave 2-(3,5-dichloro-2-thienyl)-N-[2-(3,4-

dimethoxyphenyl)ethyl]-2-hydroxyacetamide. N-[2-(2-bromo-4,5-dimethoxyphenyl)ethyl]-2-(2-bromo-3-thienyl)-2-hydroxyacetamide showed fungicidal activity against Pyricularia oryzae.

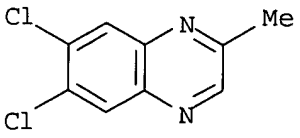
L4 ANSWER 24 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1996:271491 CAPLUS
DN 124:306493
TI Tyrphostins. 5. Potent Inhibitors of Platelet-Derived Growth Factor Receptor Tyrosine Kinase: Structure-Activity Relationships in Quinoxalines, Quinolines, and Indole Tyrphostins
AU Gazit, Aviv; App, Harald; McMahon, Gerald; Chen, Jefferey; Levitzki, Alexander; Bohmer, Frank D.
CS Alexander Silverman Institute of Life Sciences, Hebrew University of Jerusalem, Jerusalem, 91904, Israel
SO Journal of Medicinal Chemistry (1996), 39(11), 2170-7
CODEN: JMCMAR; ISSN: 0022-2623
PB American Chemical Society
DT Journal
LA English
IT **71896-95-2P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(structure-activity relations of quinoxalines and quinolines and indole tyrphostins as tyrosine kinase inhibitors)
RN 71896-95-2 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-phenyl- (9CI) (CA INDEX NAME)



AB A series of 3-indoleacrylonitrile tyrphostins, 2-chloro-3-phenylquinolines, and 3-arylquinoxalines were prepd. and tested for inhibition of platelet-derived growth factor receptor tyrosine kinase (PDGF-RTK) activity. The potency of the inhibitors was quinoxalines >quinolines >indoles. Lipophilic groups (Me, methoxy) in the 6 and 7 positions and Ph at the 3 position of quinoxalines and quinolines were essential for potency, in contrast to the hydrophilic catechol group in tyrphostins active against EGFR kinase inhibition at different sites. The inhibitors showed selectivity for PDGF and were not active against EGF receptor and HER-2/c-ErbB-2 receptor.

L4 ANSWER 25 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1996:252055 CAPLUS
DN 125:3259
TI Relative hepatotoxicity of 2-(substituted phenyl)thiazoles and substituted thiobenzamides in mice: evidence for the involvement of thiobenzamides as ring cleavage metabolites in the hepatotoxicity of 2-phenylthiazoles
AU Mizutani, Tamio; Suzuki, Kiyomi
CS Department of Food Science and Nutrition, Kyoto Prefectural University, Kyoto, 606, Japan
SO Toxicology Letters (1996), 85(2), 101-5
CODEN: TOLED5; ISSN: 0378-4274

PB Elsevier
DT Journal
LA English
IT **108653-55-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of dichloromethylquinoxaline)
RN 108653-55-0 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-methyl- (9CI) (CA INDEX NAME)



AB The hepatotoxicity of the 3 isomers of para-substituted thiobenzamides and the 3 isomers of 2-(para-substituted phenyl)-4-methylthiazoles was evaluated in mice depleted of glutathione (GSH) by pretreatment with buthionine sulfoximine (BSO). In accordance with previous studies with the rat, p-methoxythiobenzamide was more toxic than thiobenzamide, and conversely p-chlorothiobenzamide was markedly less toxic as assessed by serum alanine aminotransferase (ALT) activity. The hepatotoxicity of 2-phenyl-4-methylthiazole was also altered by the addn. of para-substituents to the Ph ring in the same way as obsd. for thiobenzamide derivs.: the rank order of toxicity was 4-methylthiazoles having p-methoxyphenyl > Ph >> p-chlorophenyl at the 2-position. This good correlation of the rank order of hepatotoxicity between series of 2-(para-substituted phenyl)-4-methylthiazoles and para-substituted thiobenzamides supports the concept that thiobenzamides as ring cleavage metabolites play a role in the hepatotoxicity of 2-phenylthiazole derivs.

L4 ANSWER 26 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1996:71553 CAPLUS
DN 124:261073
TI Bis mono- and bicyclic aryl and heteroaryl compounds which inhibit EGF and/or PDGF receptor tyrosine kinase
IN Spada, Alfred P.; Myers, Michael R.; Maguire, Martin P.; Persons, Paul E.
PA Rhone-Poulenc Rorer Pharmaceuticals Inc., USA
SO U.S., 33 pp. Cont.-in-part of U.S. Ser. No. 988,515, abandoned.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 7

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	US 5710158	A	19980120	US 1994-229886	19940419
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				US 1993-166199 A2	19931210
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RW: KE, MW, SD, SZ, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

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AU 9513050	A1	19950627	AU 1995-13050 19941208
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			US 1994-229886 A 19940419
			WO 1994-US14180W 19941208
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US 5795889	A	19980818	US 1995-386271 19950209
			US 1991-698420 B219910510
			US 1992-988515 B219921210
			US 1993-166199 A319931210
US 5646153	A	19970708	US 1995-439027 19950511
			US 1991-698420 B219910510
			US 1992-988515 B219921210
			US 1993-166199 A319931210
US 5721237	A	19980224	US 1995-469147 19950606
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US 5714493	A	19980203	US 1996-652444 19960604
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			US 1993-166199 A219931210
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			WO 1994-US14180W 19941208
US 6057320	A	20000502	US 1997-881991 19970625
			US 1991-698420 B219910510
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			US 1993-166199 A319931210
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US 36256	E	19990720	US 1997-988005 19971210
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			WO 1992-US3736 B219920506
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US 37650	E	20020409	US 2000-496399 20000202
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PATENT FAMILY INFORMATION:
FAN 1993:191764

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PI	WO 9220642	A1	19921126	WO 1992-US3736	19920506
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	AU 9219934	A1	19921230	AU 1992-19934	19920506
	AU 658646	B2	19950427		
				US 1991-698420	A 19910510
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	AT 159009	E	19971015	AT 1992-912051	19920506
				US 1991-698420	A 19910510
	ES 2108120	T3	19971216	ES 1992-912051	19920506
				US 1991-698420	A 19910510
	US 5409930	A	19950425	US 1993-146072	19931108
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US 5480883	A	19960102	US 1993-166199	19931210
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US 5710158	A	19980120	US 1994-229886	19940419
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FAN 1997:107384

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PI WO 9639145	A1	19961212	WO 1996-US9606	19960606
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FAN 1998:98053

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FAN 1998:105843

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FAN 1998:146697

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				WO 1996-US9606 W 19960606
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				WO 1996-US9606 W 19960606
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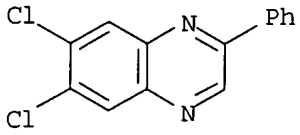
				US 1995-469147 A 19950606

OS MARPAT 124:261073

IT **71896-95-2P**, 2-Phenyl-6,7-dichloroquinoxaline
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of bis mono- and bicyclic aryl and heteroaryl compds. as protein tyrosine kinase inhibitors)

RN 71896-95-2 CAPLUS

CN Quinoxaline, 6,7-dichloro-2-phenyl- (9CI) (CA INDEX NAME)



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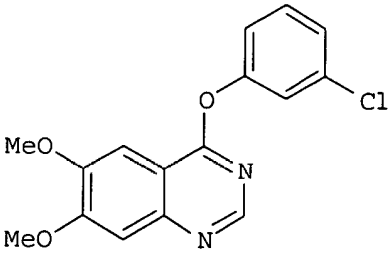
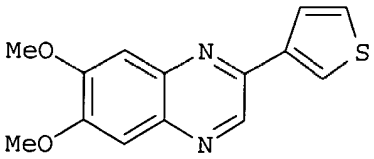


II



III

AB The invention relates to bis mono- and/or bicyclic aryl and/or heteroaryl compds. Ar1XAr2 [I; Ar1, Ar2 = (un)substituted mono- or bicyclic rings with 0-3 substituents; X = (CHR1)0-4 or (CHR1)mZ(CHR1)n; Z = O, NR2, S, SO, SO2; m, n = 0-3; R1, R2 = H, alkyl] exhibiting protein tyrosine kinase inhibition activity. I inhibit abnormal cell proliferation in proliferative disorders by selectively inhibiting EGF and/or PDGF receptor. Approx. 300 compds. I are listed with characterizing data, and biol. data for selected compds. are given. For example, m-ClC6H4OH was treated with NaH in THF, followed by 4-chloro-6,7-dimethoxyquinazoline, to give title compd. II. The claimed quinoxaline deriv. III inhibited PDGF-R cell-free autophosphorylation with an IC50 of 0.02-0.05 .mu.M.

L4 ANSWER 27 OF 100 CAPLUS COPYRIGHT 2003 ACS

AN 1995:994439 CAPLUS

DN 124:55985

TI Preparation of 2-(sulfonamido)quinoxaline antitumor agents

IN Ray, James Edward; Toth, John Eldon

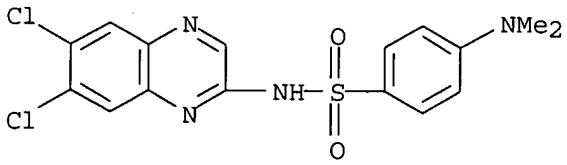
PA Lilly, Eli, and Co., USA

SO Eur. Pat. Appl., 22 pp.

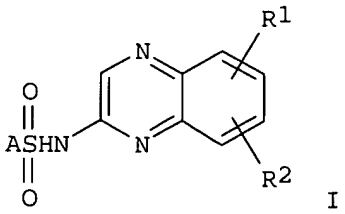
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 672662	A1	19950920	EP 1995-301292	19950228
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE				
			US 1994-206806	19940304
US 5529999	A	19960625	US 1994-206806	19940304
CA 2143514	AA	19950905	CA 1995-2143514	19950227
			US 1994-206806	19940304
JP 07267936	A2	19951017	JP 1995-43883	19950303
			US 1994-206806	19940304

OS MARPAT 124:55985
IT **171967-51-4P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. of 2-(sulfonamido)quinoxaline antitumor agents)
RN 171967-51-4 CAPLUS
CN Benzenesulfonamide, N-(6,7-dichloro-2-quinoxalinyl)-4-(dimethylamino)-(9CI) (CA INDEX NAME)



GI



I

AB The title compds [I; A = (un)substituted Ph, (un)substituted naphthyl, (un)substituted (un)satd. heterocyclic; R1, R2 = H, trifluoromethyl, halogen, C1-6 alkyl; such that R1 and R2 cannot both be H, etc.], useful in the treatment of susceptible neoplasms, are prepd. and I-contg. formulations presented. Thus, NaH and DMF were reacted with (4-dimethylamino)benzenesulfonamide and 2,5-dichloroquinoxaline added after 1 h, producing 4-(N',N'-dimethylamino)-N-(5-chloro-2-quinoxalinyl)benzenesulfonamide, which demonstrated a IC50 against CCRF-CEM human leukemia cells of 0.1 .mu.g/mL, vs. 0.8 .mu.g/mL for 4-amino-N-(5-chloro-2-quinoxalinyl)benzenesulfonamide.

L4 ANSWER 28 OF 100 CAPLUS COPYRIGHT 2003 ACS

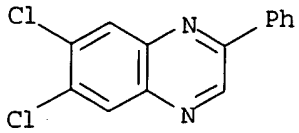
AN 1995:926425 CAPLUS
DN 123:329984
TI Receptor tyrosine kinase inhibitors for inhibiting cell proliferative disorders
IN Chen, Hui; Gazit, Aviv; Hirth, Klaus Peter; Levitzki, Alex; Mann, Elaina; Shawver, Laura K.; Tsai, Jianming; Tang, Peng Cho
PA Sugen, Inc., USA; Yissum Research Development Co.
SO PCT Int. Appl., 121 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9524190	A2	19950914	WO 1995-US2826	19950306
	WO 9524190	A3	19951109		
	W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TT, UA				
	RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
				US 1994-207933	19940307
	AU 9520968	A1	19950925	AU 1995-20968	19950306
				US 1994-207933	19940307
				WO 1995-US2826	19950306

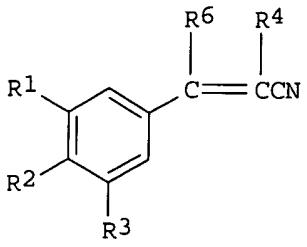
PATENT FAMILY INFORMATION:
FAN 1998:534888

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5789427	A	19980804	US 1995-399967	19950307
				US 1994-207933	19940307
	US 5773476	A	19980630	US 1995-486775	19950607
				US 1994-207933	19940307
				US 1995-399967	19950307

OS MARPAT 123:329984
IT **71896-95-2P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(receptor tyrosine kinase inhibitors for inhibiting cell proliferative disorders)
RN 71896-95-2 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-phenyl- (9CI) (CA INDEX NAME)



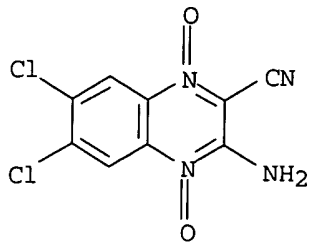
GI



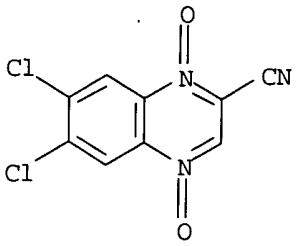
I

AB Receptor tyrosine kinase inhibitors I [R1-R3, R6 = alkyl, alkenyl, alkynyl, alkoxy, OH, amino, SH, alkylthio, halo, H, NO2, etc.; R4 = C(S)NHR5, C(O)NHR5, SO2YR5; Y = single bond, C(CN):CH:CH, azaalkyl; R5 = (substituted) aralkyl, CN] and II [R7-R10 = R1-R3 above; R12 = C(O)Me, C(S)Me, C(O)CF3, C(S)CF3; R13 = aryl, alkylaryl] are prepd. for use in treating cell proliferative disorders such as cancers characterized by overactivity or inappropriate activity of HER2 receptors or EGF receptors. Thus, I [R1, R2 = OH, R3 = I, R4 = C(O)NH(CH2)3Ph, R6 = H] (III) was prepd. in 2 steps by condensation of 5-iodovanillin with N-(3-phenylpropyl)cyanoacetamide. III inhibited EGF receptor kinase activity in EGC7 cells, HER2 kinase activity in BT-474 cells, and platelet-derived growth factor receptor kinase .beta. activity with an IC50 of 4, 18, and 35 .mu.M, resp., and inhibited growth of SKBR3 and SKOV3 cells in vitro at IC50 9 and 4.5 .mu.M, resp.

L4 ANSWER 29 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1995:849931 CAPLUS
DN 124:55903
TI Hypoxia-Selective Agents Derived from 2-Quinoxalinecarbonitrile 1,4-Di-N-oxides. 2
AU Monge, Antonio; Martinez-Crespo, Francisco J.; Lopez de Cerain, Adela; Palop, Juan A.; Narro, Susana; Senador, Virginia; Marin, Ana; Sainz, Yolanda; Gonzalez, Mercedes; et al.
CS Department of Medicinal Chemistry, Universidad de Navarra, Pamplona, 31080, Spain
SO Journal of Medicinal Chemistry (1995), 38(22), 4488-94
CODEN: JMCMAR; ISSN: 0022-2623
PB American Chemical Society
DT Journal
LA English
IT **163777-36-4**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
(hypoxia-selective agents derived from 2-quinoxalinecarbonitrile dioxides)
RN 163777-36-4 CAPLUS
CN 2-Quinoxalinecarbonitrile, 3-amino-6,7-dichloro-, 1,4-dioxide (9CI) (CA INDEX NAME)



IT **171880-71-0P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(hypoxia-selective agents derived from 2-quinoxalinecarbonitrile dioxides)
RN 171880-71-0 CAPLUS
CN 2-Quinoxalinecarbonitrile, 6,7-dichloro-, 1,4-dioxide (9CI) (CA INDEX NAME)



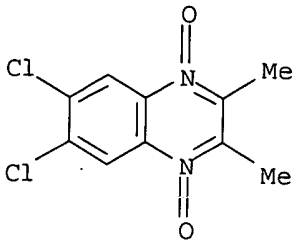
AB Hypoxic cells are an important target for antitumor therapy because tumors are typically characterized by such cells. Virtually all tumors which are present as solid masses contain hypoxic cells, while normal cells generally have an adequate supply of oxygen. Accordingly, antitumor agents can be made selective for tumors by virtue of high activity under hypoxic conditions. The initial purpose of this work was to det. the influence of different groups in position 3. Thus, the synthesis of some 3-NH-substituted derivs. starting from 3-amino-2-quinoxalinecarbonitrile 1,4-di-N-oxide is described.

L4 ANSWER 30 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1995:796557 CAPLUS
DN 124:8751
TI New derivatives of quinoxaline 1,4-dioxide: synthesis and antibacterial activity
AU Glushkov, R. G.; Vozyakova, T. I.; Adamskaya, Ye. V.; Aleinikova, S. A.; Radkevich, T. P.; Shepilova, L. D.; Padeiskaya, Ye. N.; Guskova, T. A.
CS Khim.-Farm. Inst. im. S. Ordzhonikidze, Russia
SO Khimiko-Farmatsevticheskii Zhurnal (1994), 28(1), 15-17
CODEN: KHFZAN; ISSN: 0023-1134
PB Meditsina
DT Journal
LA Russian
IT **62018-39-7P 171111-77-6P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological

study, unclassified); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and antimicrobial activity of quinoxaline dioxides)

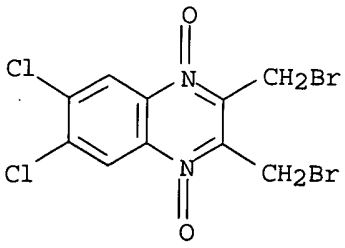
RN 62018-39-7 CAPLUS

CN Quinoxaline, 6,7-dichloro-2,3-dimethyl-, 1,4-dioxide (9CI) (CA INDEX NAME)



RN 171111-77-6 CAPLUS

CN Quinoxaline, 2,3-bis(bromomethyl)-6,7-dichloro-, 1,4-dioxide (9CI) (CA INDEX NAME)

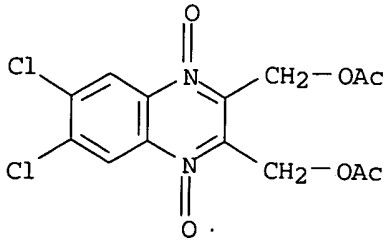


IT **171111-83-4P**

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(prepn. and antimicrobial activity of quinoxaline dioxides)

RN 171111-83-4 CAPLUS

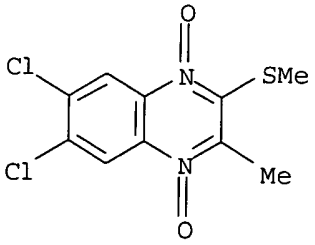
CN 2,3-Quinoxalinedimethanol, 6,7-dichloro-, diacetate (ester), 1,4-dioxide (9CI) (CA INDEX NAME)



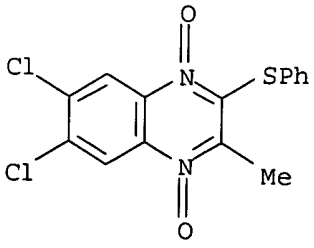
AB The title compds. were prepd. from o-nitroanilines via benzofuroxans. Some of the compds. synthesized showed marked activity against gram-pos.

bacteria and pathogenic fungi.

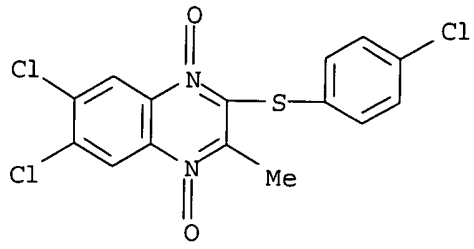
L4 ANSWER 31 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1995:788055 CAPLUS
DN 123:340002
TI New hypoxia-selective cytotoxins derived from quinoxaline 1,4-dioxides
AU Monge, A.; Palop, J. A.; Gonzalez, Mercedes; Martinez-Crespo, F. J.; Lopez de Cerain, Adela; Sainz, Yolanda; Narro, Susana; Barker, A. J.; Hamilton, E.
CS CIFA, Universidad Navarra, Pamplona, 31080, Spain
SO Journal of Heterocyclic Chemistry (1995), 32(4), 1213-17
CODEN: JHTCAD; ISSN: 0022-152X
PB HeteroCorporation
DT Journal
LA English
IT **170806-10-7P 170806-11-8P 170806-12-9P**
170806-18-5P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of cytotoxic quinoxaline dioxides)
RN 170806-10-7 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-methyl-3-(methylthio)-, 1,4-dioxide (9CI) (CA INDEX NAME)



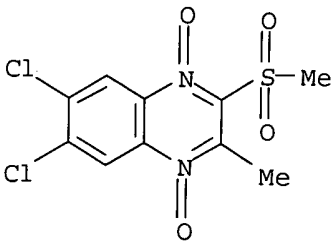
RN 170806-11-8 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-methyl-3-(phenylthio)-, 1,4-dioxide (9CI) (CA INDEX NAME)



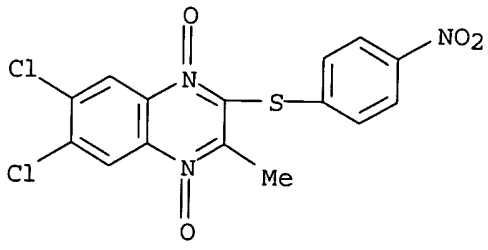
RN 170806-12-9 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-[(4-chlorophenyl)thio]-3-methyl-, 1,4-dioxide (9CI) (CA INDEX NAME)



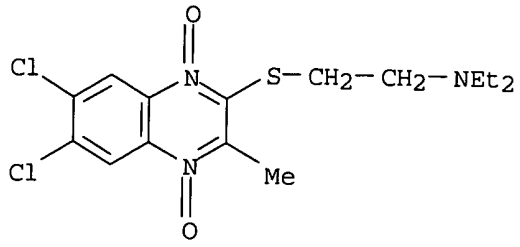
RN 170806-18-5 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-methyl-3-(methylsulfonyl)-, 1,4-dioxide (9CI) (CA INDEX NAME)



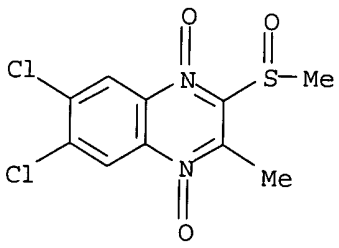
IT **170806-13-0P 170806-14-1P 170806-15-2P**
170806-16-3P 170806-17-4P 170806-19-6P
170806-22-1P 170806-23-2P 170806-24-3P
170806-26-5P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(prepn. of cytotoxic quinoxaline dioxides)
RN 170806-13-0 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-methyl-3-[(4-nitrophenyl)thio]-, 1,4-dioxide (9CI) (CA INDEX NAME)



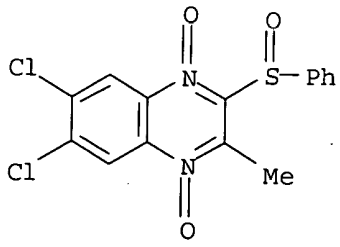
RN 170806-14-1 CAPLUS
CN Ethanamine, 2-[(6,7-dichloro-3-methyl-1,4-dioxido-2-quinoxalinyl)thio]-N,N-diethyl- (9CI) (CA INDEX NAME)



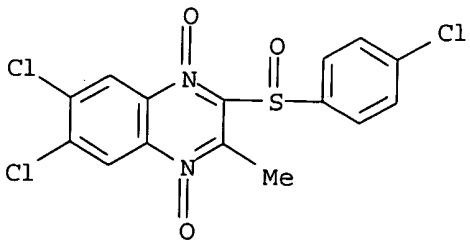
RN 170806-15-2 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-methyl-3-(methylsulfinyl)-, 1,4-dioxide (9CI) (CA INDEX NAME)



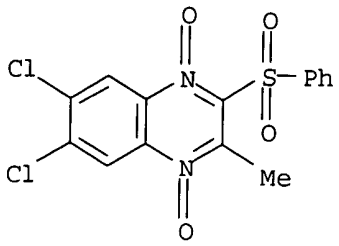
RN 170806-16-3 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-methyl-3-(phenylsulfinyl)-, 1,4-dioxide (9CI) (CA INDEX NAME)



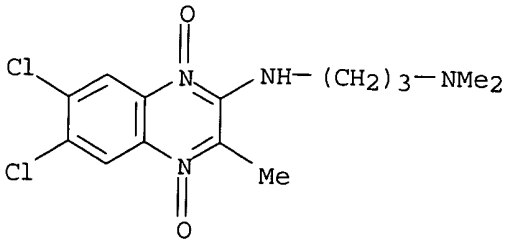
RN 170806-17-4 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-[(4-chlorophenyl)sulfinyl]-3-methyl-, 1,4-dioxide (9CI) (CA INDEX NAME)



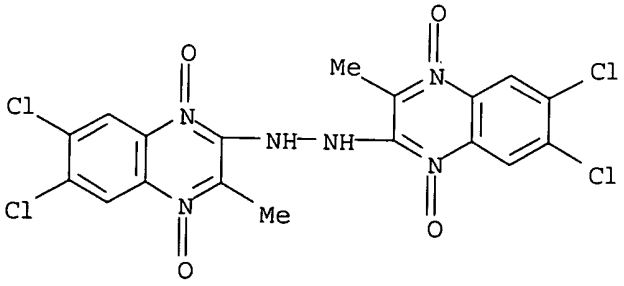
RN 170806-19-6 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-methyl-3-(phenylsulfonyl)-, 1,4-dioxide (9CI) (CA INDEX NAME)



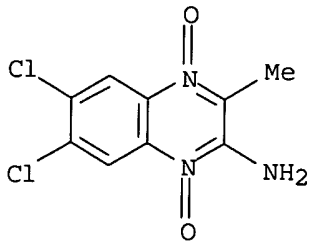
RN 170806-22-1 CAPLUS
CN 1,3-Propanediamine, N'-(6,7-dichloro-3-methyl-1,4-dioxido-2-quinoxalinyl)-N,N-dimethyl- (9CI) (CA INDEX NAME)



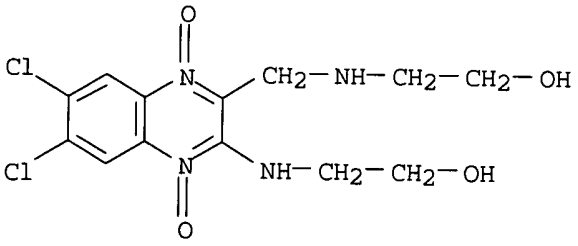
RN 170806-23-2 CAPLUS
CN Quinoxaline, 2,2'-hydrazobis[6,7-dichloro-3-methyl-, 1,1',4,4'-tetraoxide (9CI) (CA INDEX NAME)



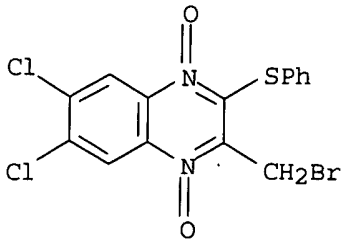
RN 170806-24-3 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-3-methyl-, 1,4-dioxide (9CI) (CA INDEX NAME)



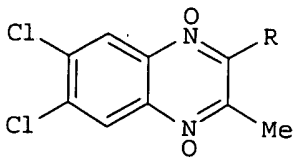
RN 170806-26-5 CAPLUS
CN Ethanol, 2-[[[6,7-dichloro-3-[(2-hydroxyethyl)amino]-1,4-dioxido-2-quinoxalinyl]methyl]amino]- (9CI) (CA INDEX NAME)



IT **170806-25-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of cytotoxic quinoxaline dioxides)
RN 170806-25-4 CAPLUS
CN Quinoxaline, 2-(bromomethyl)-6,7-dichloro-3-(phenylthio)-, 1,4-dioxide (9CI) (CA INDEX NAME)



GI



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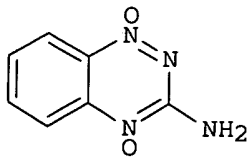
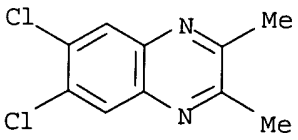


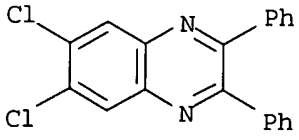
II

AB A new series of quinoxaline 1,4-dioxides, e.g., I (R = p-O2NC6H4S, p-ClC6H4SO, MeSO2, Cl, Br) structurally related to the benzotriazine tirapazamine II were prepd. starting from 5,6-dichlorobenzofuroxane. The compds. were tested (some data given) as cytotoxic agents both in oxic and in hypoxic cells.

L4 ANSWER 32 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1995:540023 CAPLUS
DN 123:55806
TI Titanium trichloride-promoted reductive cyclization of ketones and nitro compounds
AU Zhou, Long-Hu; Dai, Guai-Yuan; Shi, Da-Qing; Chen, Wei-Xing
CS Department Chemistry, Xuzhou Teachers College, Xuzhou, 221009, Peop. Rep. China
SO Youji Huaxue (1995), 15(2), 209-11
CODEN: YCHHDX; ISSN: 0253-2786
PB Kexue
DT Journal
LA Chinese
IT **52736-71-7P 164471-02-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(titanium trichloride-promoted reductive cyclization of ketones and nitro compds.)
RN 52736-71-7 CAPLUS
CN Quinoxaline, 6,7-chloro-2,3-dimethyl- (9CI) (CA INDEX NAME)



RN 164471-02-7 CAPLUS
CN Quinoxaline, 6,7-dichloro-2,3-diphenyl- (9CI) (CA INDEX NAME)



AB Aq. titanium trichloride promoted intermol. reductive cyclization of 1,2-diketones and o-nitroanilines in basic media provides a convenient method for the synthesis of quinoxaline derivs. E.g., 2,3-dimethylquinoxaline was prepd. in 60.1% from 2,3-butanedione and o-nitroaniline.

L4 ANSWER 33 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1995:538899 CAPLUS
DN 123:265
TI Hypoxia-Selective Agents Derived from Quinoxaline 1,4-Di-N-oxides
AU Monge, Antonio; Palop, Juan A.; de Cerain, Adela Lopez; Senador, Virginia; Martinez, Francisco J.; Sainz, Yolanda; Narro, Susana; Garcia, Estrella;

de Miguel, Carlos; et al.

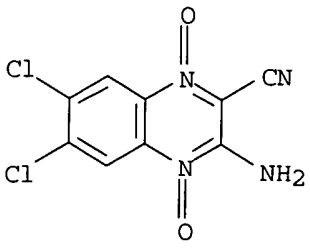
CS Department of Medicinal Chemistry, Universidad de Navarra, Pamplona, 31080, Spain

SO Journal of Medicinal Chemistry (1995), 38(10), 1786-92
CODEN: JMCMAR; ISSN: 0022-2623
PB American Chemical Society
DT Journal
LA English

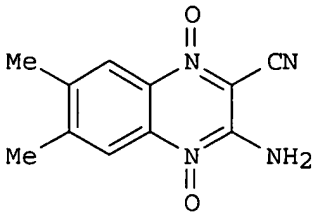
IT **163777-36-4P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(hypoxia-selective agents derived from quinoxaline di-N-oxides)

RN 163777-36-4 CAPLUS

CN 2-Quinoxalinecarbonitrile, 3-amino-6,7-dichloro-, 1,4-dioxide (9CI) (CA INDEX NAME)



GI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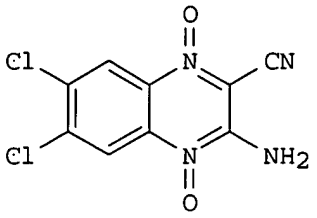
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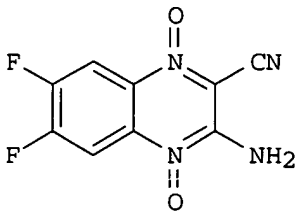
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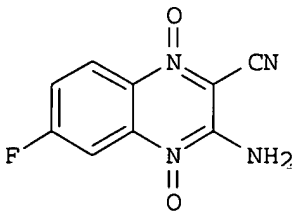
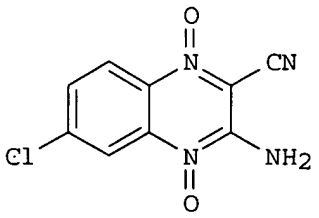
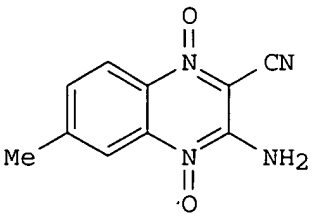

IV

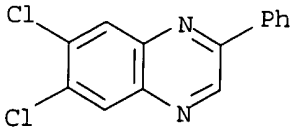

V


VI

AB Hypoxic cells, which are a common feature of solid tumors, but not normal tissues, are resistant to both anticancer drugs and radiation therapy. Thus the identification of drugs with selective toxicity toward hypoxic cells is an important objective in anticancer chemotherapy. The benzotriazine di-N-oxide (SR 4233, Tirapazamine) has been shown to be an efficient and selective cytotoxin for hypoxic cells. Since the bioreductive activation of Tirapazamine is thought to be due to the presence of the 1,4-di-N-oxide moiety, a series of 3-aminoquinoxaline-2-carbonitrile 1,4-di-N-oxides with a range of electron-donating and -withdrawing substituents in the 6- and/or 7- positions has been synthesized and evaluated for toxicity to hypoxic cells. Electrochem. studies of the quinoxaline di-N-oxides and Tirapazamine showed that as the electron-withdrawing nature of the 6(7)-substituent increases, the redn. potential becomes more pos. and the compd. is more readily reduced. Apart from the unsubstituted deriv. and the 6,7-di-Me deriv. I, the quinoxaline di-N-oxides have redn. potentials significantly more pos. than Tirapazamine (Epc -0.90 V). The most potent cytotoxins to cells in culture were the 6,7-dichloro and 6,7-difluoro derivs. II and III, which were 30-fold more potent than Tirapazamine. The 6(7)-fluoro and 6(7)-chloro compds., IV and V, showed the greatest hypoxia selectivity. Four of the compds., IV, VI, III and II, killed the inner cells of multicellular tumor spheroids in vitro. In vivo Balb/c mice tolerated a dose of these four compds. twice the size of that of Tirapazamine. This study demonstrates that quinoxaline 1,4-di-N-oxides could provide useful hypoxia-selective therapeutic agents.

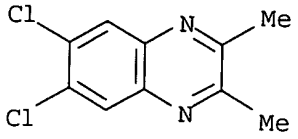
L4 ANSWER 34 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1995:137643 CAPLUS
DN 122:56002

TI Polyaza heterocycles. Part 2. Nucleophilic substitution of halogens in halogenoquinoxalino[2,3-c]cinnolines
AU Ahamd, Arshad; Dunbar, Linda J.; Green, Iain G.; Harvey, Ian W.; Shepherd, Thomas; Smith, David M.; Wong, Robert K. C.
CS Sch. Chem., Univ. St. Andrews, Fife, KY16 9ST, UK
SO Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1994), (19), 275-18
CODEN: JCPRB4; ISSN: 0300-922X
DT Journal
LA English
IT **71896-95-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and attempted methoxydechlorination of)
RN 71896-95-2 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-phenyl- (9CI) (CA INDEX NAME)



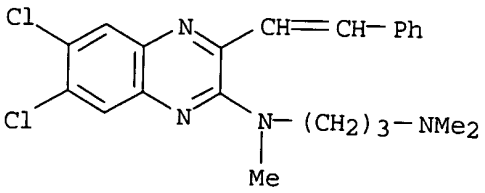
AB 10-Chloroquinoxalino[2,3-c]cinnoline readily undergoes methoxydechlorination when treated with sodium methoxide. The 1-, 2-, 3-, 4-, and 9-chloro isomers are unreactive towards this reagent, but the 9,10-dichloro deriv. undergoes substitution of both chlorines (the 10-position being much more reactive). The 9- and 10-bromo analogs are both unreactive towards sodium methoxide, but the 9- and 10-fluoro analogs are both highly reactive, to the extent that it has not been possible even to isolate the 10-fluoro compd. Routes to 9- and 10-piperidinoquinoxalino[2,3-c]cinnolines are described.

L4 ANSWER 35 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1994:263159 CAPLUS
DN 120:263159
TI Simple and sensitive determination of 2,3-butanediol in biological samples by gas chromatography with electron-capture detection
AU Otsuka, Masato; Ohmori, Shinjii
CS Fac. Pharm. Sci., Okayama Univ., Okayama, 700, Japan
SO Journal of Chromatography, B: Biomedical Sciences and Applications (1994), 654(1), 1-7
CODEN: JCBBEP; ISSN: 1387-2273
DT Journal
LA English
IT **52736-71-7**, 6,7-Dichloro-2,3-dimethylquinoxaline
RL: ANST (Analytical study)
(in detn. of butanediol in biol. samples by gas chromatog. with electron-capture detection)
RN 52736-71-7 CAPLUS
CN Quinoxaline, 6,7-chloro-2,3-dimethyl- (9CI) (CA INDEX NAME)

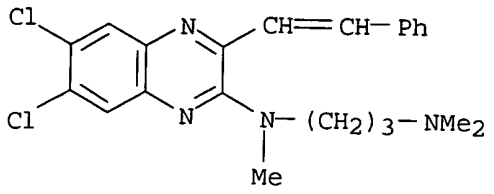


AB 2,3-Butanediol was quant. oxidized into diacetyl by reaction with MnO4- at 20.degree. for 30 min under neutral conditions. The reaction of diacetyl with 4,5-dichloro-1,2-diaminobenzene afforded 6,7-dichloro-2,3-dimethylquinoxaline (DCDMQ), which was extd. with n-hexane and detd. by gas chromatog. with electron-capture detection. As an internal std. 1,2-cyclohexanediol was used. The detection limit of DCDMQ (or 2,3-butanediol) was 10 fmol/.mu.L in the ext., and the detn. limit of DCDMQ (or 2,3-butanediol) was at least from 50 fmol/.mu.L to 20 pmol/.mu.L in the ext. Recoveries from normal rat urine and rat liver homogenate were 97.8 .+-. 3.4% and 98.4 .+-. 2.9%, resp. The method is very simple and sensitive and is applicable to the detn. of 2,3-butanediol in normal rat tissues.

L4 ANSWER 36 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1993:531283 CAPLUS
DN 119:131283
TI CP-99,711: A nonpeptide glucagon receptor antagonist
AU Collins, Judith L.; Dambek, Paul J.; Goldstein, Steven W.; Faraci, W. Stephen
CS Cen. Res. Div., Pfizer Inc., Groton, CT, 06340, USA
SO Bioorganic & Medicinal Chemistry Letters (1992), 2(9), 915-18
CODEN: BMCLE8; ISSN: 0960-894X
DT Journal
LA English
IT **149366-39-2P 149839-55-4P**, CP 99711
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and glucagon receptor antagonist properties of)
RN 149366-39-2 CAPLUS
CN 1,3-Propanediamine, N-[6,7-dichloro-3-(2-phenylethenyl)-2-quinoxalinyl]-N,N',N'-trimethyl- (9CI) (CA INDEX NAME)

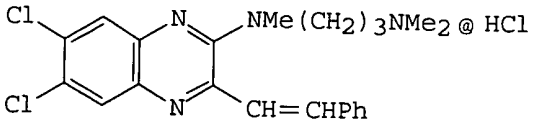


RN 149839-55-4 CAPLUS
CN 1,3-Propanediamine, N-[6,7-dichloro-3-(2-phenylethenyl)-2-quinoxalinyl]-N,N',N'-trimethyl-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

GI



I

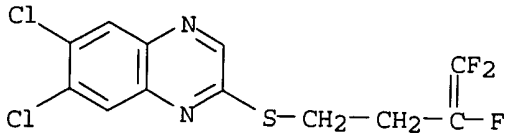
AB CP-99,711 (I), identified in a screening program, displaces [125I]-glucagon from its rat liver receptor. The synthesis of I is described and is characterized as a functional glucagon receptor antagonist.

L4 ANSWER 37 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1993:472621 CAPLUS
DN 119:72621
TI Preparation of nematocidal quinoxaline derivatives
IN Turnbull, Michael Drysdale; Finney, John
PA Imperial Chemical Industries PLC, UK
SO PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

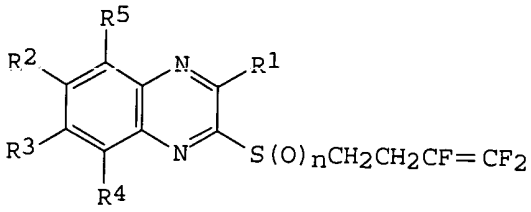
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9304049	A1	19930304	WO 1992-GB1397	19920728
	W: AU, BB, BG, BR, CA, CS, FI, HU, JP, KP, KR, LK, MG, MN, MW, NO, PL, RO, RU, SD, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, SN, TD, TG				
				GB 1991-17987	19910820
	AU 9223694	A1	19930316	AU 1992-23694	19920728
				GB 1991-17987	19910820
				WO 1992-GB1397	19920728
	US 5246933	A	19930921	US 1992-926012	19920806
				GB 1991-17987	19910820

OS MARPAT 119:72621
IT **148515-99-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as nematocide)
RN 148515-99-5 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-[(3,4,4-trifluoro-3-butenyl)thio]- (9CI) (CA

INDEX NAME)



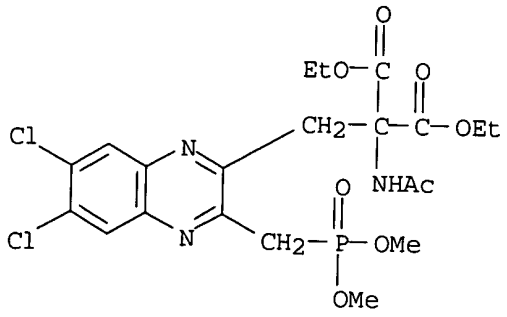
GI



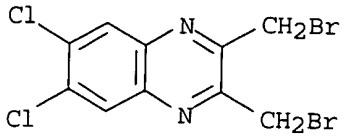
I

AB Title compds. I (R1-R5 = H, alkyl, alkenyl, alkynyl, (alkyl)cycloalkyl, halo, haloalkyl, alkoxy, alkenyloxy, haloalkoxy, R6O2C wherein R6 = H, C1-4 alkyl, R7R8N wherein R7 = C1-4 alkyl, R8 = R6, etc., n = 0-2), are prepd. 2-Chloroquinoxaline and NaSH were reacted to give 2-mercaptoquinoxaline which was treated with CF2:CFEt to give I (R1-R5 = H, n = 0). A similar prepd. title compd. I (R1 = R3 = R4 = R5 = H, R2 = Cl, n = 0) at 10 and 20 ppm gave 100% control of Globodera rostochiensis on tomato plants.

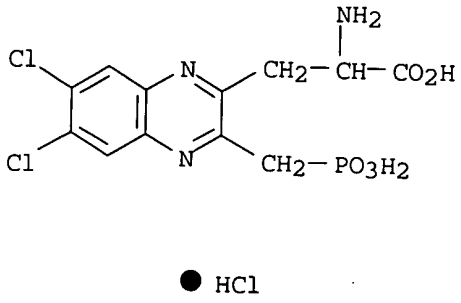
L4 ANSWER 38 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1993:428549 CAPLUS
DN 119:28549
TI Potent quinoxaline-spaced phosphono .alpha.-amino acids of the AP-6 type as competitive NMDA antagonists: synthesis and biological evaluation
AU Baudy, Reinhardt B.; Greenblatt, Lynne P.; Jirkovsky, Ivo L.; Conklin, Mary; Russo, Ralph J.; Bramlett, Donna R.; Emrey, Tracy A.; Simmonds, Joanne T.; Kowal, Dianne M.; et al.
CS Div. CNS Chem., Wyeth-Ayerst Research Inc., Princeton, NJ, 08543-8000, USA
SO Journal of Medicinal Chemistry (1993), 36(3), 331-42
CODEN: JMCMAR; ISSN: 0022-2623
DT Journal
LA English
IT **143154-12-5P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and hydrolysis of)
RN 143154-12-5 CAPLUS
CN Propanedioic acid, (acetylamino)[[6,7-dichloro-3-[(dimethoxyphosphinyl)methyl]-2-quinoxalinyl]methyl]-, diethyl ester (9CI) (CA INDEX NAME)



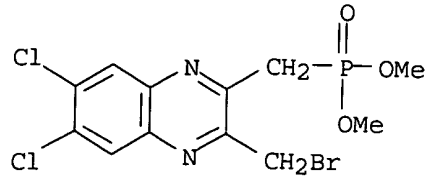
IT **3298-96-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and phosphonylation of, with tri-Me phosphite)
RN 3298-96-2 CAPLUS
CN Quinoxaline, 2,3-bis(bromomethyl)-6,7-dichloro- (7CI, 8CI, 9CI) (CA INDEX NAME)



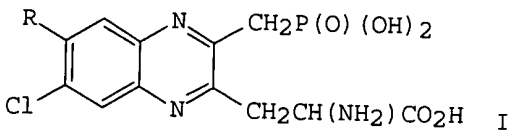
IT **147708-29-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 147708-29-0 CAPLUS
CN 2-Quinoxalinepropanoic acid, .alpha.-amino-6,7-dichloro-3-(phosphonomethyl)-, monohydrochloride (9CI) (CA INDEX NAME)



IT **143154-11-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn., crystal, and condensation reaction of, with acetamidomalonate)
RN 143154-11-4 CAPLUS
CN Phosphonic acid, [[3-(bromomethyl)-6,7-dichloro-2-quinoxalinyl]methyl]-, dimethyl ester (9CI) (CA INDEX NAME)



GI



I

AB A series of .alpha.-amino-3-(phosphonoalkyl)-2-quinoxalinepropanoic acids, e.g. I [R = H (II); R = Cl (III)] were synthesized and evaluated for NMDA receptor affinity using a [3H]CPP binding assay. Functional antagonism of the NMDA receptor complex was evaluated in vitro using a stimulated [3H]TCP binding assay and in vivo by employing an NMDA-induced seizure model. Some analogs also were evaluated in the [3H]-glycine binding assay. Several compds. of the AP-6 type show potent and selective NMDA antagonistic activity both in vitro and in vivo. In particular II displayed an ED50 of 1.1 mg/kg i.p. in the NMDA lethality model. Noteworthy is III with a unique dual activity, displaying in the NMDA receptor binding assay an IC50 of 3.4 nM and in the glycine binding assay an IC50 of 0.61 .mu.M.

L4 ANSWER 39 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1993:234087 CAPLUS
DN 118:234087
TI Preparation of azolobenzazine excitatory amino acid receptor antagonists
IN McQuaid, Loretta A.; Mitch, Charles H.; Ornstein, Paul L.; Schoepp, Darryle D.; Smith, Edward C. R.
PA Lilly, Eli, and Co., USA
SO U.S., 12 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5153196	A	19921006	US 1991-710649	19910605
	CA 2070055	AA	19921206	CA 1992-2070055	19920529
				US 1991-710649	19910605
	EP 518530	A2	19921216	EP 1992-304887	19920529
	EP 518530	A3	19930120		
	EP 518530	B1	19961009		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, PT, SE				
				US 1991-710649	19910605
	JP 05163147	A2	19930629	JP 1992-138986	19920529
				US 1991-710649	19910605
	AT 143806	E	19961015	AT 1992-304887	19920529
				US 1991-710649	19910605
	ES 2092639	T3	19961201	ES 1992-304887	19920529

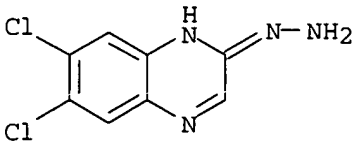
				US 1991-710649	19910605
	US 5196421	A	19930323	US 1992-904358	19920625
				US 1991-710649	19910605

OS MARPAT 118:234087

IT **143007-16-3P 143007-19-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as intermediate for azolobenzazine excitatory amino acid antagonist)

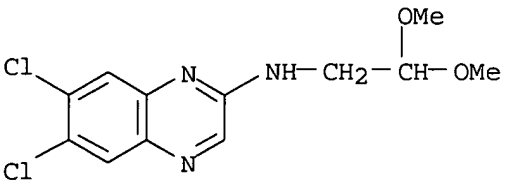
RN 143007-16-3 CAPLUS

CN 2(1H)-Quinoxalinone, 6,7-dichloro-, hydrazone (9CI) (CA INDEX NAME)

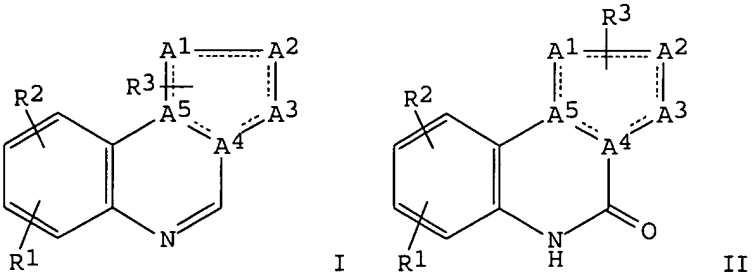


RN 143007-19-6 CAPLUS

CN 2-Quinoxalinamine, 6,7-dichloro-N-(2,2-dimethoxyethyl)- (9CI) (CA INDEX NAME)



GI



AB Title compds. [I and II; A1-A3 = C, N; .gtoreq.1 of A1-A3 = N; one of A4, A5 = C, the other = N; R1, R2 = H, halo, cyano, NO2, alkyl, (substituted) Ph, (substituted) fused benzo, azido, CF3, NHSO2R4, SO2NR5R6; R3 = H, alkyl, aryl, CF3; R4 = alkyl, (substituted) Ph; R5, R6 = H, alkyl], were prepd. Thus, 4,5-dichloro-1,2-phenylenediamine ws refluxed with HO2CCHO/H2O/EtOH to give 6,7-dichloroquinoxalin-2-one. This was refluxed with POCl3 to give 2,6,7-trichloroquinoxaline which was refluxed with hydrazine to give 2-hydrazino-6,7-dichloroquinoxaline. This was refluxed with MeC(OEt)3 to give 1-methyl-7,8-dichloro-1,2,4-triazolo[4,3-a]quinoxaline. I at 10 .mu.m displaced 3H-kainate from excitatory amino

acid receptor prepns. by -6.4 to 34.7%.

L4 ANSWER 40 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1993:96275 CAPLUS
DN 118:96275
TI Antidotes reducing pesticidal interactions with herbicides in crops
IN Bussler, Brett Hayden; Hakes, Harrison Ross; Mayonado, David James
PA Monsanto Co., USA
SO PCT Int. Appl., 331 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9211761	A1	19920723	WO 1991-US9783	19911230
	W: AU, BG, BR, CA, CS, FI, HU, JP, KR, PL, RO, RU, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE				
				US 1990-636360	19901231
				US 1991-808590	19911220
	US 5484760	A	19960116	US 1991-808590	19911220
				US 1990-636360	19901231
	AU 9191521	A1	19920817	AU 1991-91521	19911230
				US 1990-636360	19901231
				US 1991-808590	19911220
				WO 1991-US9783	19911230
	EP 565593	A1	19931020	EP 1992-902922	19911230
	EP 565593	B1	19990303		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, MC, NL, SE				
				US 1990-636360	19901231
				US 1991-808590	19911220
				WO 1991-US9783	19911230
	BR 9107199	A	19940405	BR 1991-7199	19911230
				US 1990-636360	19901231
				US 1991-808590	19911220
				WO 1991-US9783	19911230

PATENT FAMILY INFORMATION:
FAN 1996:106676

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5484760	A	19960116	US 1991-808590	19911220
				US 1990-636360	19901231
	CA 2096527	AA	19920701	CA 1991-2096527	19911230
				US 1990-636360	19901231
				US 1991-808590	19911220
	WO 9211761	A1	19920723	WO 1991-US9783	19911230
	W: AU, BG, BR, CA, CS, FI, HU, JP, KR, PL, RO, RU, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE				
				US 1990-636360	19901231
				US 1991-808590	19911220
	AU 9191521	A1	19920817	AU 1991-91521	19911230
				US 1990-636360	19901231
				US 1991-808590	19911220
				WO 1991-US9783	19911230
	ZA 9110204	A	19921125	ZA 1991-10204	19911230
				US 1990-636360	19901231
	EP 565593	A1	19931020	EP 1992-902922	19911230
	EP 565593	B1	19990303		

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, MC, NL, SE

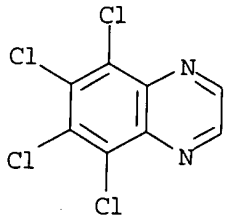
			US 1990-636360	19901231
			US 1991-808590	19911220
			WO 1991-US9783	19911230
BR 9107199	A	19940405	BR 1991-7199	19911230
			US 1990-636360	19901231
			US 1991-808590	19911220
			WO 1991-US9783	19911230
HU 65077	A2	19940428	HU 1993-1897	19911230
			US 1990-636360	19901231
			US 1991-808590	19911220
AT 176987	E	19990315	AT 1992-902922	19911230
			US 1990-636360	19901231
			US 1991-808590	19911220
ES 2130166	T3	19990701	ES 1992-902922	19911230
			US 1990-636360	19901231
			US 1991-808590	19911220

OS MARPAT 118:96275

IT **3495-42-9**, Chlorquinox
RL: BIOL (Biological study)
(neg. synergism of, with herbicides, antidote for suppression of)

RN 3495-42-9 CAPLUS

CN Quinoxaline, 5,6,7,8-tetrachloro- (7CI, 8CI, 9CI) (CA INDEX NAME)



AB The neg. synergism in crops induced by the interaction of an herbicide, such as micosulfuron, primisulfuron, or NC-319, with an insecticide (phorate, terbufos, chlorpyrifos, etc.), fungicide, or nematocide is suppressed by an antidote, such as dichlormid, R 29148, or AD 67. Injury to corn from the joint application of 0.23 kg Counter/305-m furrow and 0.14 kg NC-319/ha was almost totally suppressed by MON-13900 [3-dichloroacetyl)-2,2-dimethyl-5-(2-furanyl)oxazolidine] (0.14 kg/ha).

L4 ANSWER 41 OF 100 CAPLUS COPYRIGHT 2003 ACS

AN 1992:592207 CAPLUS

DN 117:192207

TI Fluorine-19 NMR studies on the mechanism of riboflavin synthase. Synthesis of 6-(trifluoromethyl)-7-oxo-8-(D-ribityl)lumazine and 6-(trifluoromethyl)-7-methyl-8-(D-ribityl)lumazine

AU Cushman, Mark; Patel, Hemantkumar H.; Scheuring, Johannes; Bacher, Adelbert

CS Sch. Pharm. Pharm. Sci., Purdue Univ., West Lafayette, IN, 47907, USA

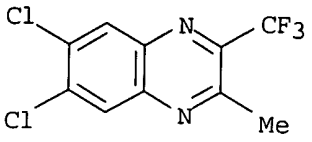
SO Journal of Organic Chemistry (1992), 57(21), 5630-43
CODEN: JOCEAH; ISSN: 0022-3263

DT Journal

LA English

IT **143309-87-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of)
RN 143309-87-9 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-methyl-3-(trifluoromethyl)- (9CI) (CA INDEX NAME)

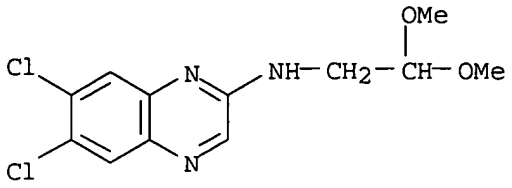


GI

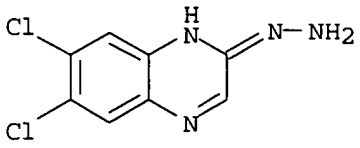
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Title oxo-(D-ribityl)lumazine I was synthesized by reaction of Me trifluoropyruvate with 5-amino-6-(D-ribitylamino)pyrimidine-2,4(1H,3H)-dione hydrochloride and utilized as a 19F NMR probe of the light riboflavin synthase of Bacillus subtillis. I was found to be an inhibitor of riboflavin synthase with an inhibition const. KI = 55 .mu.M. The enzyme-bound ligand gave rise to several broad 19F NMR signals which were shifted to low field. The bound ligand I could be displaced from the enzyme by the enzyme product, riboflavin (II), and the product analog, 5-nitroso-6-(ribitylamino)-2,4(1H,3H)-pyrimidinedione. Title methyl-(D-ribityl)lumazine III was synthesized by reaction of 5-amino-6-(D-ribitylamino)pyrimidine-2,4(1H,3H)-dione hydrochloride with 1,1,1-trifluorobutane-2,3-dione. Three mols. of III can be bound relatively tightly per mol of riboflavin synthase, i.e., one ligand mol. per protein subunit. A scheme for the catalytic cycle of riboflavin synthase is proposed.

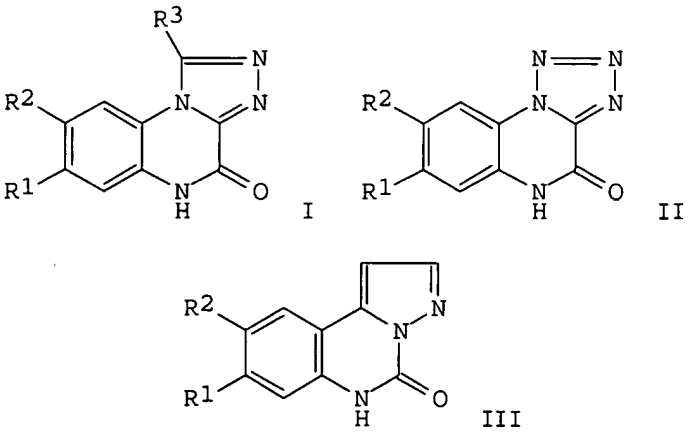
L4 ANSWER 42 OF 100 CAPLUS . COPYRIGHT 2003 ACS
AN 1992:550961 CAPLUS
DN 117:150961
TI Synthesis and excitatory amino acid pharmacology of a series of heterocyclic-fused quinoxalinones and quinazolinones
AU McQuaid, Loretta A.; Smith, Edward C. R.; South, Kimberly K.; Mitch, Charles H.; Schoepp, Darryle D.; True, Rebecca A.; Calligaro, David O.; O'Malley, Patrick J.; Lodge, David; Ornstein, Paul L.
CS Lilly Res. Lab., Indianapolis, IN, 46285, USA
SO Journal of Medicinal Chemistry (1992), 35(18), 3319-24
CODEN: JMCMAR; ISSN: 0022-2623
DT Journal
LA English
IT **143007-19-6P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and intramol. cyclocondensation of)
RN 143007-19-6 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-N-(2,2-dimethoxyethyl)- (9CI) (CA INDEX NAME)



IT **143007-16-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and sequential reaction with orthoesters, and oxidn. by peroxides or trifluoroacetic acid)
RN 143007-16-3 CAPLUS
CN 2(1H)-Quinoxalinone, 6,7-dichloro-, hydrazone (9CI) (CA INDEX NAME)



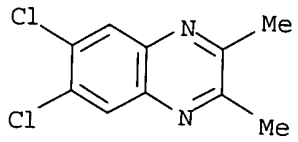
GI



AB A series of substituted 1,2,4-triazolo[4,3-a]quinoxalin-4(5H)-ones I (R1 = R2 = Cl, F, R3 = H, alkyl, Ph; R1 = NO2, R2 = H, NO2, R3 = H), tetrazolo[1,5-a]quinoxalin-4(5H)-ones II (R = R2 = Cl, H, NO2; R1 = NO2, R2 = H; R1 = H, R2 = NO2), pyrazolo[1,5-c]quinazolin-5(6H)-ones III, and an imidazo[1,2-a]quinoxalin-4(5H)-one, was synthesized as potent amino acid antagonists. In general, the same heterocycles which demonstrated the best affinity for the AMPA receptor also demonstrated the best affinity for the glycine site on the NMDA receptor complex. 1-Propyl-7,8-dichloro-1,2,4-triazolo[4,3-a]quinoxalin-4(5H)-one, was found to bind with the greatest affinity to the AMPA receptor with an IC50 of 0.83 .mu.M and antagonized 40 .mu.M AMPA-induced depolarization in the cortical slice prepn. with an IC50 of 44 .mu.M. 7,8-Dichloro-1,2,4-triazolo[4,3-a]quinoxalin-4(5H)-one and 7,8-dichloroimidazo[1,2-a]quinoxalin-4(5H)-one possessed the best affinity for the glycine site

with IC50 values of 0.63 and 1.25 .mu.M, resp. The structure-activity relationship for the heterocyclic compds. did not directly parallel that of known quinoxalinediones (e.g. DNQX and DCQX) at the AMPA receptor nor that of the kynurenic acids at the glycine site on the NMDA receptor complex.

L4 ANSWER 43 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1992:544877 CAPLUS
DN 117:144877
TI Simple and sensitive determination of diacetyl and acetoin in biological samples and alcoholic drinks by gas chromatography with electron-capture detection
AU Otsuka, Masato; Ohmori, Shinji
CS Fac. Pharm. Sci., Okayama Univ., Okayama, 700, Japan
SO Journal of Chromatography (1992), 577(2), 215-20
CODEN: JOCRAM; ISSN: 0021-9673
DT Journal
LA English
IT **52736-71-7P**, DCDMQ
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, for acetoin and diacetyl detn. in biol. samples and alc. beverages by GC)
RN 52736-71-7 CAPLUS
CN Quinoxaline, 6,7-chloro-2,3-dimethyl- (9CI) (CA INDEX NAME)



AB Acetoin was quant. oxidized into diacetyl by Fe3+ in 1M perchloric acid. The reaction of diacetyl with 4,5-dichloro-1,2-diaminobenzene afforded 6,7-dichloro-2,3-dimethylquinoxaline (DCDMQ), which was extd. by benzene contg. aldrin (25 ng/mL) as an internal std., and detd. by gas chromatog. with electron-capture detection. The method is very simple and sensitive. The detection limit of DCDMQ (either diacetyl or acetoin) was 10 fmol/.mu.L of the benzene ext., and the detn. limit of DCDMQ (either diacetyl or acetoin) was 50 fmol/.mu.L of the ext. Both acetoin and diacetyl could be detd. in 0.1 mL of normal human urine or blood, and both were found in rat liver, kidney, and brain. The method was also applied to the detn. of acetoin and diacetyl in alc. drinks.

L4 ANSWER 44 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1992:531561 CAPLUS
DN 117:131561
TI Preparation of (phosphonoalkyl)(aminocarboxyalkyl)quinoxalines as N-methyl-D-aspartate (NMDA) antagonists
IN Jirkovsky, Ivo L.; Baudy, Reinhardt B.; Greenblatt, Lynne P.
PA American Home Products Corp., USA
SO U.S., 9 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI	US 5118675	A	19920602	US 1991-656894	19910215
	WO 9214740	A1	19920903	WO 1992-US1080	19920211
	W: AU, CA, JP, KR				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, MC, NL, SE				
				US 1991-656894	19910215
	AU 9214320	A1	19920915	AU 1992-14320	19920211
				US 1991-656894	19910215
				WO 1992-US1080	19920211

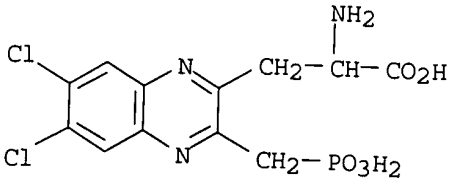
OS MARPAT 117:131561

IT **143154-00-1P**

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as NMDA antagonist)

RN 143154-00-1 CAPLUS

CN 2-Quinoxalinepropanoic acid, .alpha.-amino-6,7-dichloro-3-(phosphonomethyl)- (9CI) (CA INDEX NAME)

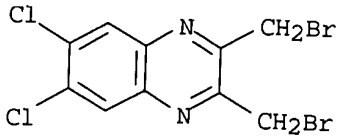


IT **3298-96-2P 143154-11-4P 143154-12-5P**

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as intermediate for NMDA antagonist)

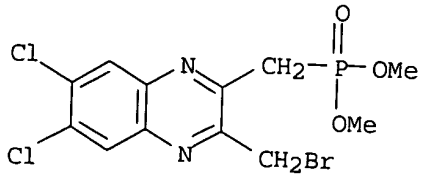
RN 3298-96-2 CAPLUS

CN Quinoxaline, 2,3-bis(bromomethyl)-6,7-dichloro- (7CI, 8CI, 9CI) (CA INDEX NAME)



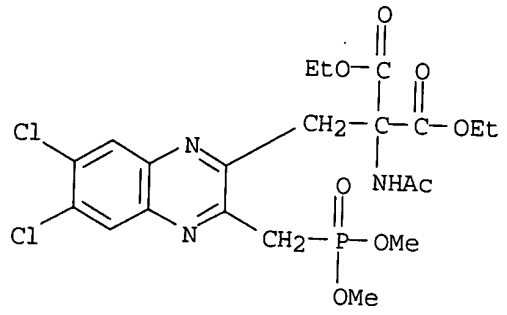
RN 143154-11-4 CAPLUS

CN Phosphonic acid, [[3-(bromomethyl)-6,7-dichloro-2-quinoxalinyl]methyl]-, dimethyl ester (9CI) (CA INDEX NAME)



RN 143154-12-5 CAPLUS

CN Propanedioic acid, (acetylamino)[[6,7-dichloro-3-[(dimethoxyphosphinyl)methyl]-2-quinoxalinyl]methyl]-, diethyl ester (9CI) (CA INDEX NAME)



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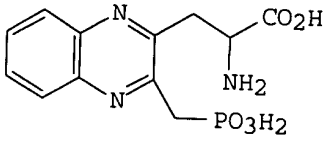
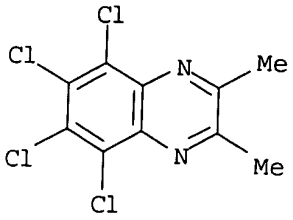


I

AB H2N(HO2C)CH(CH2)mQ(CH2)n PO3H2 (Q = quinoxaline nucleus; m = 0-3; n = 1-3), and salts and esters thereof, were prepd. Thus, 1,2-phenylenediamine and 1,4-dibromo-2,3-butanedione were refluxed in C6H6 with removal of H2O to give 2,3-bis(bromomethyl)quinoxaline. The latter was refluxed with P(OMe)3 in PhMe to give di-Me 3-bromomethylquinoxaline-2-methylphosphonate. The latter in THF was added to a -78.degree. mixt. of N-benzylideneglycine Et ester and KOCMe3 in THF followed by warming to room temp. over 4 h to give Et N-benzylidene-.alpha.-amino-3-[(dimethoxyphosphinyl)methyl]-2-quinoxaline propanoate. Deprotection of the latter gave title compd. I. L-I inhibited NMDA-induced mortality in mice with ED50 = 1.52 mg/kg i.p.

L4 ANSWER 45 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1990:160459 CAPLUS
DN 112:160459
TI The variant-rich chemistry of quinoxalines to quinoid and indigoid chromophores. IV. The chemistry of naphtho-, quinolino-, and anthracenophenazinones
AU Schelz, Dieter
CS Inst. Farbenchem., Univ. Basel, Basel, CH-4056, Switz.
SO Dyes and Pigments (1990), 12(1), 1-20
CODEN: DYPIDX; ISSN: 0143-7208
DT Journal
LA German
OS CASREACT 112:160459
IT **18225-81-5**, 5,6,7,8-Tetrachloro-2,3-dimethylquinoxaline
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with dichloronaphthoquinones)
RN 18225-81-5 CAPLUS
CN Quinoxaline, 5,6,7,8-tetrachloro-2,3-dimethyl- (7CI, 8CI, 9CI) (CA INDEX NAME)

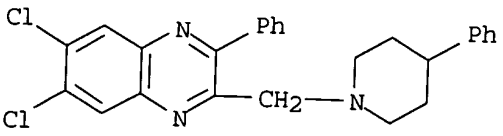


AB Dihydronaphtho[1,2-b]phenazinones and dihydroquinolino[1,2-b]phenazinones were prepd. by treating quinoxalinium perchlorates with dihalonaphthoquinones and dihaloquinoline quinones, resp.

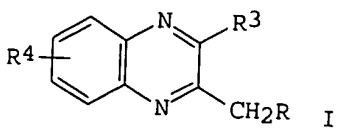
L4 ANSWER 46 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1990:139053 CAPLUS
DN 112:139053
TI Preparation of N-substituted 2-(aminomethyl)quinoxalines as antiinflammatories and analgesics
IN Sarodnick, Gerhard; Kempter, Gerhard; Goeres, Erhard; Dove, Baerbel; Morgenstern, Eveline
PA Institut fuer Pharmakologische Forschung der Pharmazeutischen Industrie, Ger. Dem. Rep.
SO Ger. (East), 6 pp.
CODEN: GEXXA8
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DD 269620	A1	19890705	DD 1985-272581	19850115
				DD 1985-272581	19850115

OS CASREACT 112:139053; MARPAT 112:139053
IT **125989-05-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, an analgesic and antiinflammatory)
RN 125989-05-1 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-phenyl-3-[(4-phenyl-1-piperidinyl)methyl]- (9CI) (CA INDEX NAME)



GI



I

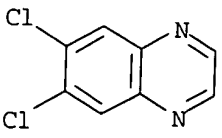
Patel

AB The title compds. [I; R = NR1R2; R1 = H, R2; R2 = (un)substituted (cyclo)alkyl, aryl, heterocyclyl; R3 = H, alkyl, aryl; R4 .gtoreq.1 of H, halo, NO2, cyano, CF3] or their pharmaceutically acceptable salts, useful as analgesics and inflammation inhibitors in the human and veterinary medicine, were prepd. by a substitution reaction of HNR1R2 with 2-(halomethyl)quinoxaline analogs or with their precursors R3C(:Y)COCH2X (X = Cl, Br; Y = O, NOH; R3 as above), which were subsequently cyclocondensed with optionally R4-substituted o-phenylenediamines to form quinoxalines. Morpholine was added dropwise to a boiling soln. of 2-(bromomethyl)quinoxaline in heptane and the mixt. was refluxed 1 h to give 80% I (R = 4-morpholino, R3 = R4 = H) (II). In the acetic acid writhing test in mice, the mean values of ED50 were 4.4 .times. 10-5 for II, 2.2 .times. 10-5 for analgin, and 1.2 .times. 10-5 mol/kg for morphine. In rats, 5 .times. 10-5 mol II/kg orally gave 40% and 20% redn. after 3 and 5 h of carrageenan-induced paw edema vs. 42% and 46% for phenylbutazone.

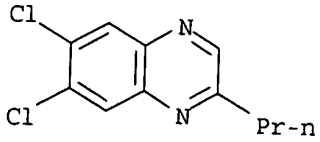
L4 ANSWER 47 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1989:594793 CAPLUS
DN 111:194793
TI Preparation of chloroquinoxalines as drugs and agrochemicals
IN Harada, Juka
PA Tec Chem K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01075474	A2	19890322	JP 1987-228594	19870914
				JP 1987-228594	19870914

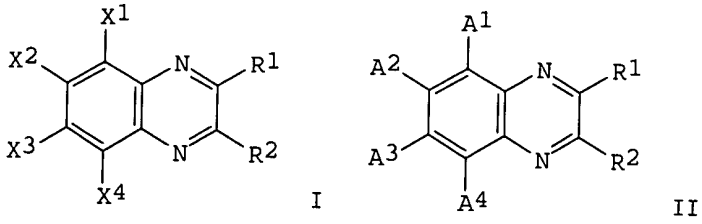
OS MARPAT 111:194793
IT **19853-64-6 123342-15-4**
RL: RCT (Reactant); RACT (Reactant or reagent)
(dehalogenation of)
RN 19853-64-6 CAPLUS
CN Quinoxaline, 6,7-dichloro- (8CI, 9CI) (CA INDEX NAME)



RN 123342-15-4 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-propyl- (9CI) (CA INDEX NAME)

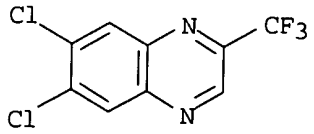


GI

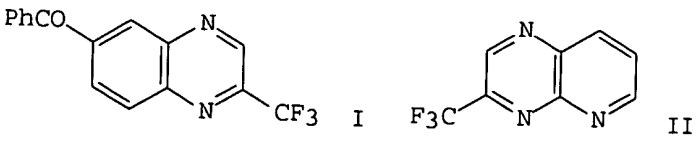


AB The title compds. I (R1, R2 = H, alkyl, CO2H, OH, etc.; X1 - X4 = H, OH, alkoxy, alkyl, halo, etc.; at least one of X1 - X4 is H or halo), useful as drugs and agrochems. (no data), were prepd. from quinoxalines II (A1 - A4 = H, OH, alkoxy, alkyl, CO2H, NH2, halo; at least one of A1 - A4 is halo). Chlorination of 2-hydroxyquinoxaline (prepn. given) with Cl2 gave 60.5% 6-chloro-2-hydroxyquinoxaline (III) and 7-chloro-2-hydroxyquinoxaline (IV). Dehalogenation of IV over 5% Pd-C under H2, followed by oxidn., gave 2-hydroxyquinoxaline which was then chlorinated to give III.

L4 ANSWER 48 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1988:570378 CAPLUS
DN 109:170378
TI Synthesis of trifluoromethylated pyrazine-containing nitrogen heterocycles from trifluoropyruvaldehyde and ortho-diamines: scope and regiochemistry
AU Cushman, Mark; Patel, Hemantkumar; McKenzie, Ann
CS Sch. Pharm. Pharm. Sci., Purdue Univ., West Lafayette, IN, 47907, USA
SO Journal of Organic Chemistry (1988), 53(21), 5088-92
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA English
OS CASREACT 109:170378
IT **115652-57-8P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and NMR of)
RN 115652-57-8 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-(trifluoromethyl)- (9CI) (CA INDEX NAME)

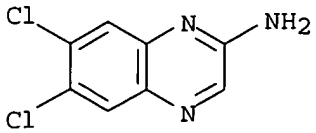


GI

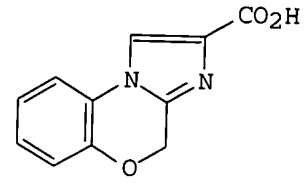


AB The structures of the reaction products, e.g. I and II, obtained from the condensation of trifluoropyruvaldehyde with a variety of ortho-diamines have been investigated in order to det. the scope of the reaction and also to investigate which of the structural isomers is formed in larger amt. in cases in which two products are possible. As a result of intensive 13C-, 19F-, and 1H-NMR studies, as well as x-ray anal. of I it has been obsd. that, in aq. soln., the major product of the reaction is usually derived from reaction of the aldehyde carbonyl of trifluoropyruvaldehyde hydrate with the more reactive amino group of the diamine to give an intermediate imine which then dehydrates and cyclizes by reaction of the remaining amino group with the carbonyl adjacent to the trifluoromethyl group.

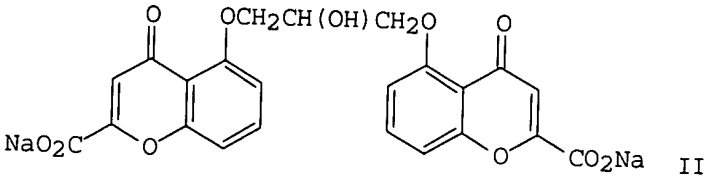
L4 ANSWER 49 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1988:221669 CAPLUS
DN 108:221669
TI Synthesis and oral antiallergic activity of carboxylic acids derived from imidazo[2,1-c][1,4]benzoxazines, imidazo[1,2-a]quinolines, imidazo[1,2-a]quinoxalines, imidazo[1,2-a]quinoxalinones, pyrrolo[1,2-a]quinoxalinones, pyrrolo[2,3-a]quinoxalinones, and imidazo[2,1-b]benzothiazoles
AU Ager, Ian R.; Barnes, Alan C.; Danswan, Geoffrey W.; Hairsine, Peter W.; Kay, David P.; Kennewell, Peter D.; Matharu, Saroop S.; Miller, Peter; Robson, Peter; et al.
CS Roussel Lab. Ltd., Covingham/Swindon/Wilts, SN3 5BT, UK
SO Journal of Medicinal Chemistry (1988), 31(6), 1098-115
CODEN: JMCMAR; ISSN: 0022-2623
DT Journal
LA English
OS CASREACT 108:221669
IT **76002-68-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and cyclocondensation reaction of, with bromopyruvate)
RN 76002-68-1 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro- (9CI) (CA INDEX NAME)



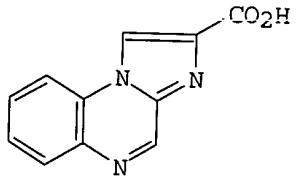
GI



I



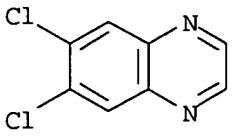
II



III

AB 4H-Imidazo[2,1-c][1,4]benzoxazine-2-carboxylic acid (I) possesses potent activity in the IgE-induced rat passive cutaneous anaphylaxis model, which may be predictive of clin. antiallergic activity. Compared to disodium cromoglycate (DSCG) (II), I was less active following i.v. administration but unlike II showed very significant oral activity. To explore the structural requirements for this activity, a range of tricyclic compds. was prepd. and their activities were measured. Individual 2-carboxylic acids derived from imidazo[1,2-a]quinolines, imidazo[1,2-a]quinoxalines, imidazo[1,2-a]quinoxalinones, pyrrolo[1,2-a]quinoxalinones, pyrrolo[2,3-a]quinoxalinones, and imidazo[2,1-b]benzothiazoles showed i.v. activities up to 103 times as potent as II and many of them showed significant oral activity. From these, imidazo[1,2-a]quinoxaline-2-carboxylic acid (III) was chosen for further development.

L4 ANSWER 50 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1988:112392 CAPLUS
DN 108:112392
TI The four 6-halo-7-nitroquinoxalines
AU Nasielski-Hinkens, Raymonde; Leveque, Pierre; Castelet, Daniel; Nasielski, Jacques
CS Lab. Chim. Org., Univ. Libre Bruxelles, Brussels, B-1050, Belg.
SO Heterocycles (1987), 26(9), 2433-42
CODEN: HTCYAM; ISSN: 0385-5414
DT Journal
LA English
OS CASREACT 108:112392
IT **19853-64-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 19853-64-6 CAPLUS
CN Quinoxaline, 6,7-dichloro- (8CI, 9CI) (CA INDEX NAME)



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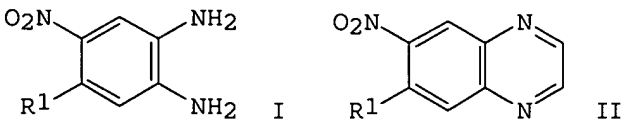
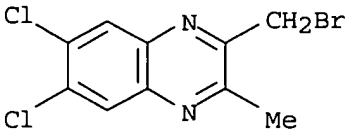
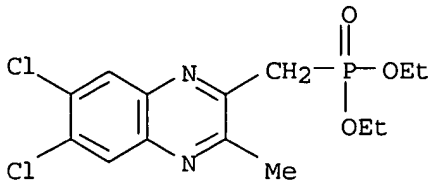


AB The cyclocondensation of phenylenediamines I (R1 = F, Cl, Br, iodo) with glyoxal gave quinoxalines II. I were prepd. from 4-halo-1,2-benzenediamines by successive N-tosylation, nitration, and detosylation.

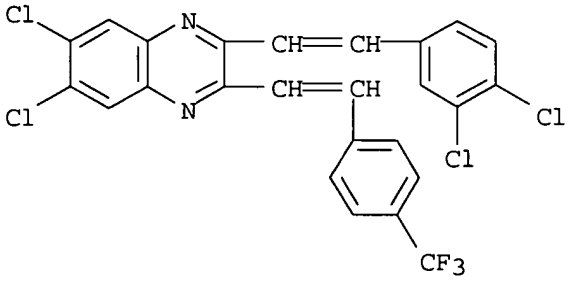
L4 ANSWER 51 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1988:56066 CAPLUS
DN 108:56066
TI A convenient synthesis of new arylethenylquinoxalines
AU Pawlowski, Georg; Frass, Werner; Mohr, Dieter
CS Kalle/Hoechst A.-G., Wiesbaden-Biebrich, D-6200, Fed. Rep. Ger.
SO Synthesis (1987), (7), 638-40
CODEN: SYNTBF; ISSN: 0039-7881
DT Journal
LA English
OS CASREACT 108:56066
IT **112331-19-8**
RL: RCT (Reactant); RACT (Reactant or reagent)
(Arbuzov reaction of)
RN 112331-19-8 CAPLUS
CN Quinoxaline, 2-(bromomethyl)-6,7-dichloro-3-methyl- (9CI) (CA INDEX NAME)



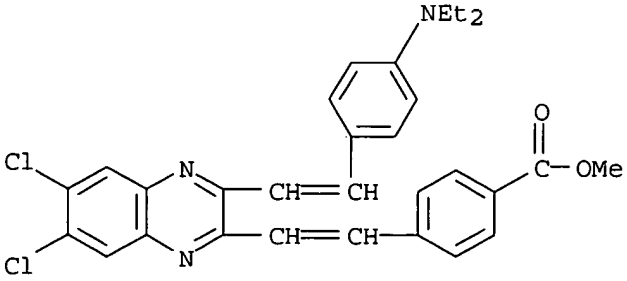
IT **112331-17-6P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and Horner-Emmons reaction of, with arom. aldehydes)
RN 112331-17-6 CAPLUS
CN Phosphonic acid, [(6,7-dichloro-3-methyl-2-quinoxalinyl)methyl]-, diethyl ester (9CI) (CA INDEX NAME)



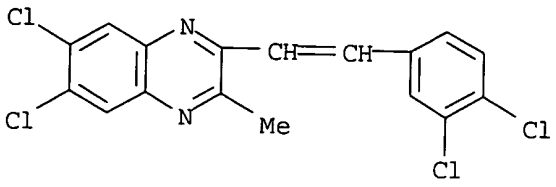
IT **112331-08-5P 112354-62-8P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and spectra of)
RN 112331-08-5 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-[2-(3,4-dichlorophenyl)ethenyl]-3-[2-[4-(trifluoromethyl)phenyl]ethenyl]- (9CI) (CA INDEX NAME)



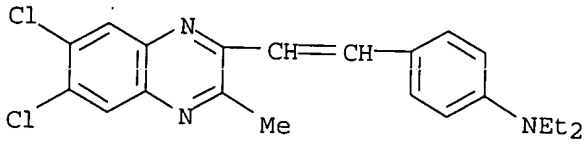
RN 112354-62-8 CAPLUS
CN Benzoic acid, 4-[2-[6,7-dichloro-3-[2-[4-(diethylamino)phenyl]ethenyl]-2-quinoxalinyl]ethenyl]-, methyl ester (9CI) (CA INDEX NAME)



IT **112331-14-3P 112331-15-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn., spectra, and condensation reaction of, with aldehydes)
RN 112331-14-3 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-[2-(3,4-dichlorophenyl)ethenyl]-3-methyl- (9CI) (CA INDEX NAME)



RN 112331-15-4 CAPLUS
CN Benzenamine, 4-[2-(6,7-dichloro-3-methyl-2-quinoxalinyl)ethenyl]-N,N-diethyl- (9CI) (CA INDEX NAME)



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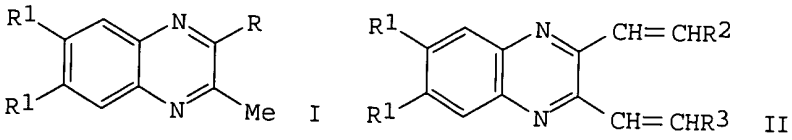
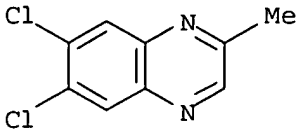


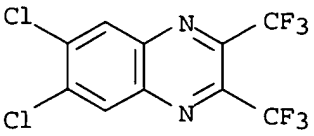
AB Arbusov reaction of bromomethylquinoxalines I (R = CH2Br, R1 = H, Cl, Me) with P(OEt)3 gave 95-100% phosphonates I [R = CH2P(O)(OEt)2], Horner-Emmons reaction of which, with R2CHO [R2 = 3,4-(MeO)2C6H3, p-tolyl, m-PhOC6H4, p-Et2NC6H4, 2-methoxynaphthyl, 3,4-Cl2C6H4], condensation of which, with R3CHO [R3 = p-NCC6H4, Ph, m-anisyl, 3,4-Cl2C6H3, styryl, p-, m-O2NC6H4, p-F3CC6H4, p-(MeO2C)C6H4] in Ac2O gave 40-84% 10 II.

L4 ANSWER 52 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1987:403514 CAPLUS
DN 107:3514
TI Simple and sensitive determination of methylglyoxal in biological samples by gas chromatography with electron-capture detection
AU Ohmori, Shinji; Kawase, Michi; Mori, Mie; Hirota, Takashi
CS Fac. Pharm. Sci., Okayama Univ., Okayama, 700, Japan
SO Journal of Chromatography (1987), 415(2), 221-9
CODEN: JOCRAM; ISSN: 0021-9673
DT Journal
LA English
IT **108653-55-0**
RL: FORM (Formation, nonpreparative)
(formation of, detn. of, by gas chromatog. with electron-capture detection)
RN 108653-55-0 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-methyl- (9CI) (CA INDEX NAME)

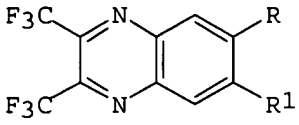


AB Methylglyoxal was allowed to react with 4,5-dichloro-1,2-phenylenediamine, and the 6,7-dichloro-2-methylquinoxaline formed was detd. by gas chromatog. with electron-capture detection. The std. curve of the quinoxaline was linear up to 160 pmol/mL. The recoveries of methylglyoxal from coffee and rat liver homogenate were 84.1 and 77.6%, resp. This procedure was very selective and so sensitive that >9 fmol of the quinoxaline could be measured in biol. and food samples.

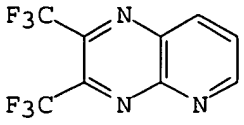
L4 ANSWER 53 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1987:119845 CAPLUS
DN 106:119845
TI Synthesis of bis(trifluoromethylated) pyrazine-containing nitrogen heterocycles from hexafluorobiacetyl and ortho-diamines. Stabilization of the covalent dihydrates of pteridines and pyrido[3,4-b]pyrazines by trifluoromethyl groups
AU Cushman, Mark; Wong, Wai Cheong; Bacher, Adelbert
CS Sch. Pharm. Pharmacal Sci., Purdue Univ., West Lafayette, IN, 47907, USA
SO Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1986), (6), 1043-50
CODEN: JCPRB4; ISSN: 0300-922X
DT Journal
LA English
OS CASREACT 106:119845
IT **107210-64-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 107210-64-0 CAPLUS
CN Quinoxaline, 6,7-dichloro-2,3-bis(trifluoromethyl)- (9CI) (CA INDEX NAME)



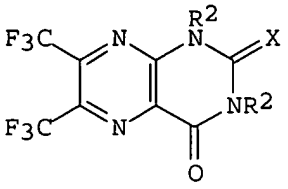
GI



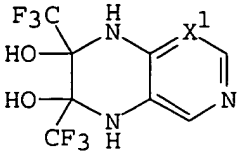
II



III



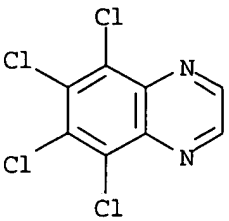
IV



V

AB An investigation of the structures of the reaction products derived from F3CCOCOCF3 (I) and a variety of o-diamines has been undertaken with the aim of detg. the extent to which trifluoromethyl groups stabilize covalent hydrates. The substituted quinoxalines II (R = H, Me, CO2H, Cl, Bz; R1 = H, Me, Cl) as well as the pyrido[2,3-b]pyrazine III and the lumazines IV (R2 = H, Me; X = O, S) exist as completely dehydrated arom. species. Depending on the reaction conditions, both the arom. form and the stable, neutral covalent dihydrate form could be obtained from the reaction of I with 4,5-diamino-6-hydroxypyrimidinium sulfate. The pyrido[3,4-b-]pyrazine system V (X1 = CH) and the pteridine V (X1 = N) exist as stable, neutral covalent dihydrates.

L4 ANSWER 54 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1987:97911 CAPLUS
DN 106:97911
TI Resistance to fungicides of Sphaerotheca fuliginea Pollacci on greenhouse cucumbers
AU Gancheva, I.; Vitanov, M.
CS Inst. Plant Protect., Kostinbrod, Bulg.
SO Pochvoznanie, Agrokhimiya i Rastitelna Zashtita (1986), 21(4), 94-101
CODEN: PARZEP; ISSN: 0205-1931
DT Journal
LA Bulgarian
IT **3495-42-9**
RL: BIOL (Biological study)
(Sphaerotheca fuliginea resistance and cross-resistance to)
RN 3495-42-9 CAPLUS
CN Quinoxaline, 5,6,7,8-tetrachloro- (7CI, 8CI, 9CI) (CA INDEX NAME)



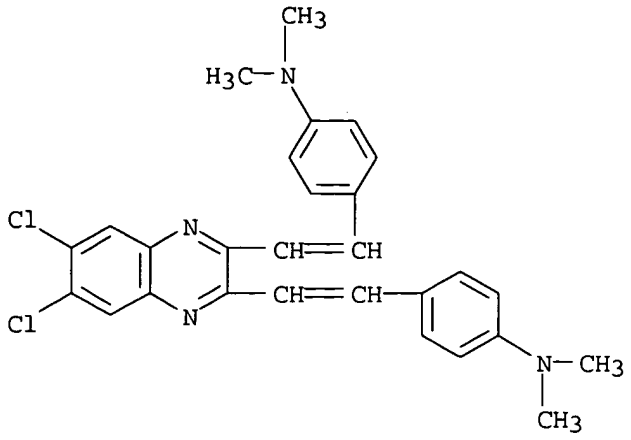
AB Spraying greenhouse cucumbers with recommended and reduced rates of Afugan [13457-18-6], Morestan [2439-01-2], Karathane [39300-45-3], and Lucel [**3495-42-9**] decreased powdery mildew infection. However, the

pathogen S. fuliginea was resistant to Benlate (I) [17804-35-2], Bavistin [10605-21-7], and methyltopsin (II) [23564-05-8]. During subsequent selection, the resistance to II increased more rapidly than to I. The selection finally induced resistance to the above fungicides and Acrex [973-21-7]. Studies of cross-resistance development showed that alternating I, II, and Bavistin with Afugan, Lucel, Bayleton [43121-43-3] and the contact fungicides Karathane and Morestan, as well as alternating Afugan with Karathane, Morestan, Acrex, Lucel, and Bayleton will prevent development of resistance in S. fuliginea. Within 7 days of selection, S. fulginea failed to develop resistance to triadimefon, dinocap, and Rubigan [60168-88-9].

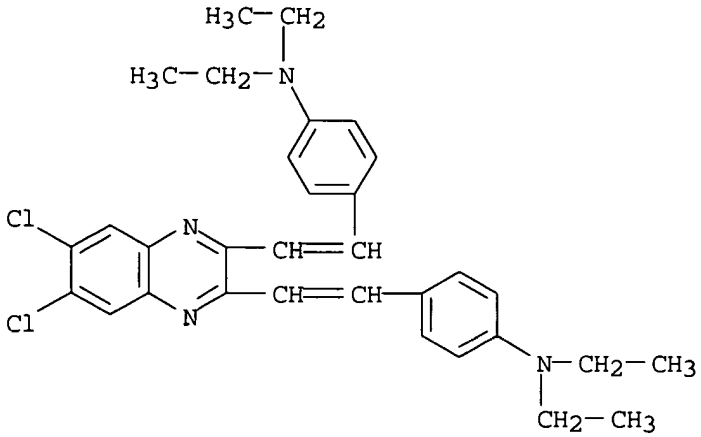
L4 ANSWER 55 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1986:79157 CAPLUS
DN 104:79157
TI 2,3-Bis(arylethenyl)quinoxalines and their use as photoconductive compounds
IN Pawlowski, Georg
PA Hoechst A.-G. , Fed. Rep. Ger.
SO Ger. Offen., 33 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI DE 3346177	A1	19850704	DE 1983-3346177	19831221
EP 149802	A2	19850731	EP 1984-115518	19841215
EP 149802	A3	19860416		
EP 149802	B1	19900926		
R: BE, CH, DE, FR, GB, IT, LI, NL				
			DE 1983-3346177	19831221
CA 1256436	A1	19890627	CA 1984-470267	19841217
			DE 1983-3346177	19831221
BR 8406571	A	19851015	BR 1984-6571	19841219
			DE 1983-3346177	19831221
JP 60178868	A2	19850912	JP 1984-267604	19841220
			DE 1983-3346177	19831221

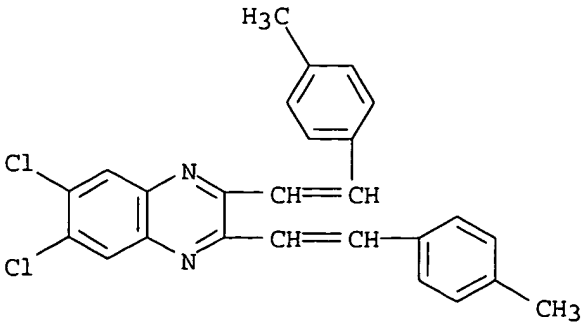
IT **99577-26-1P 99577-27-2P 99577-28-3P**
RL: PREP (Preparation)
(prepn. and electrophotog. photoconductor applications of)
RN 99577-26-1 CAPLUS
CN Benzenamine, 4,4'-[(6,7-dichloro-2,3-quinoxalinediyl)di-2,1-ethenediyl]bis[N,N-dimethyl- (9CI) (CA INDEX NAME)



RN 99577-27-2 CAPLUS
CN Benzenamine, 4,4'-[(6,7-dichloro-2,3-quinoxalinediyl)di-2,1-ethenediyl]bis[N,N-diethyl- (9CI) (CA INDEX NAME)



RN 99577-28-3 CAPLUS
CN Quinoxaline, 6,7-dichloro-2,3-bis[2-(4-methylphenyl)ethenyl]- (9CI) (CA INDEX NAME)

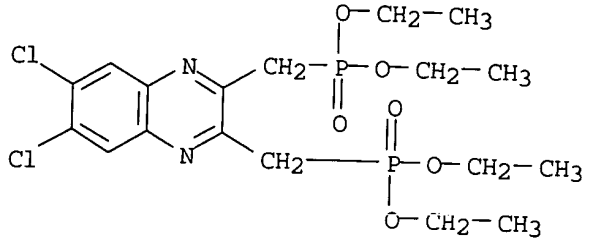


IT **99565-80-7P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction of, with dimethoxybenzaldehyde)

RN 99565-80-7 CAPLUS

CN Phosphonic acid, [(6,7-dichloro-2,3-quinoxalinediyl)bis(methylene)]bis-, tetraethyl ester (9CI) (CA INDEX NAME)

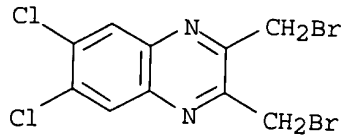


IT **3298-96-2**

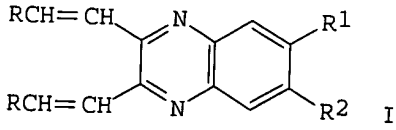
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with tri-Et phosphite)

RN 3298-96-2 CAPLUS

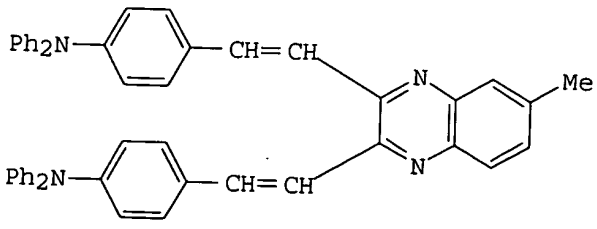
CN Quinoxaline, 2,3-bis(bromomethyl)-6,7-dichloro- (7CI, 8CI, 9CI) (CA INDEX NAME)



GI



I



II

AB 2,3-Bis(arylethenyl)quinoxalines (I; R = an optionally substituted Ph, naphthyl, styryl, anthracenyl, phenanthrenyl, pyrenyl, ferrocenyl, a higher aggregated hydrocarbon, or an optionally substituted heterocycle; R2, R3 = H, halogen, NO2, CN, NH2, monoalkylamino, dialkylamino, alkyl, alkoxy, alkenyl, OH, CO2H, carboalkoxy, PhO, or together form an uncondensed carbocyclic or heterocyclic arom. ring) are described for use

as electrophotog. photoconductors. The compds. are easily prepd. in good yield. Thus, a soln. contg. a maleic anhydride-styrene copolymer (av. mol. wt. of 80,000) 3.3, II 2.2, Rhodamine FB 0.1, Astrazon Orange 0.6, THF 22.0, and Me glycol mono-Me ether 18.8 g was coated on a electrochem. grained and poly(vinylphosphonic acid)-treated Al foil at 5.6 .mu.m (dry) thickness. The resultant material was then corona charged to -450 V, exposed in a repro camera, toner developed, and thermally fixed to give a sharp image. After treatment with a soln. contg. Na2SiO3 50, 85% glycerin 250, ethylene glycol 390, and MeOH 310 g, a printing plate capable of producing many thousands of good prints was obtained.

L4 ANSWER 56 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1983:4563 CAPLUS
DN 98:4563
TI Quinoxaline derivatives
IN Issidorides, Costas H.; Haddadin, Makhluf J.
PA Research Corp. , USA
SO U.S., 24 pp. Cont.-in-part of U.S. Ser. No. 691,252, abandoned.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4343942	A	19820810	US 1969-883577	19691209
				US 1966-592729 A2	19661108
				NL 1967-14882 A	19671102
				US 1967-691252 A2	19671218
	CA 923131	A1	19730320	CA 1967-4478	19671107
				US 1966-592729 A	19661108
				US 1969-883577 A	19691209
				CA 1970-923131 A5	19701118
	GB 1308370	A	19730228	GB 1970-47202	19701005
				US 1969-883577 A	19691209
	NL 157302	B	19780717	NL 1972-8887	19720628
				US 1966-592729 A	19661108
				NL 1967-14882 A3	19671102
	DK 7800142	A	19780112	DK 1978-142	19780112
				US 1966-592729 A	19661108
				DK 1967-5535 A	19671107
	US 4866175	A	19890912	US 1979-29344	19790412
				US 1966-592729 A2	19661108
				US 1967-691252 A2	19671218
				US 1969-883577 A3	19691209
				US 1977-843510 A1	19771008

PATENT FAMILY INFORMATION:
FAN 1969:57899

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 1134729	A	19681127	GB 1967-28313	19670620
				US 1966-592729 A	19661108
	DK 137493	C	19780828	DK 1967-5535	19671107
				US 1966-592729 A	19661108
	SE 402289	C	19781005	SE 1973-11829	19730830
				US 1966-592729 A	19661108
	DK 7800142	A	19780112	DK 1978-142	19780112
				US 1966-592729 A	19661108
				DK 1967-5535 A	19671107

FAN 1973:147994

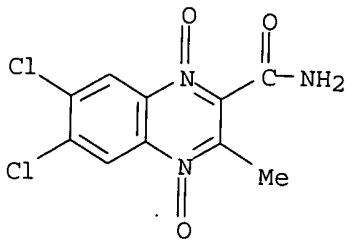
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 1308370	A	19730228	GB 1970-47202	19701005
				US 1969-883577 A	19691209
	US 4343942	A	19820810	US 1969-883577	19691209
				US 1966-592729 A	219661108
				NL 1967-14882 A	19671102
				US 1967-691252 A	219671218

OS CASREACT 98:4563

IT **31683-03-1P 31683-07-5P 31683-12-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

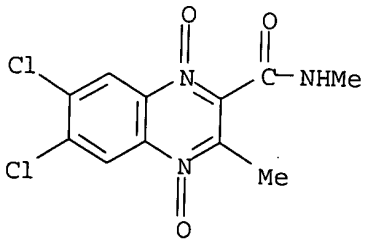
RN 31683-03-1 CAPLUS

CN 2-Quinoxalinecarboxamide, 6,7-dichloro-3-methyl-, 1,4-dioxide (8CI, 9CI) (CA INDEX NAME)



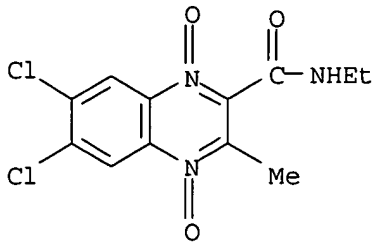
RN 31683-07-5 CAPLUS

CN 2-Quinoxalinecarboxamide, 6,7-dichloro-N,3-dimethyl-, 1,4-dioxide (8CI, 9CI) (CA INDEX NAME)



RN 31683-12-2 CAPLUS

CN 2-Quinoxalinecarboxamide, 6,7-dichloro-N-ethyl-3-methyl-, 1,4-dioxide (8CI, 9CI) (CA INDEX NAME)



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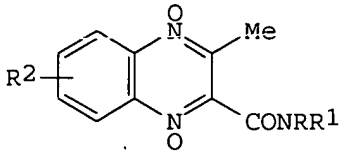

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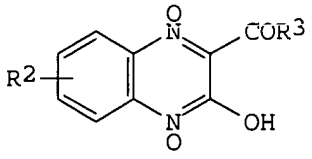
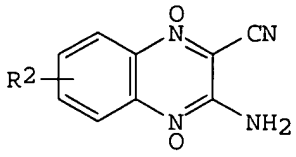


II



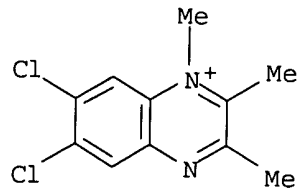
III

AB Bactericidal quinoxaline dioxides I (R, R1 = H, alkyl; R2 = F3C, H2NSO2, MeNHSO2, Me2NSO2) and II [R3 = alkoxy, aryloxy, PhCH2O, NR4R5 (R4, R5 = H, alkyl, Ph); R2 = H, Cl, F, Me, MeO, F3C, H2NSO2, MeNHSO2] and III (R2 = as before) were prepd. Thus, condensation of benzofuroxan with Me2CO in refluxing MeCN contg. pyrrolidine gave 2-methylquinoxaline dioxide which possessed a min. inhibitory concn. of 50 .mu.g/mL against Pasteurella multocida.

L4 ANSWER 57 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1982:87009 CAPLUS
DN 96:87009
TI Cross-conjugated cyanines and merocyanines, obtained from salts of 1-substituted 2,3-dimethylquinoxalines. Part 1. Isolation of the dye bases from spontaneous transformation or oxidation of the reactants with copper(II) acetate or silver oxide
AU Schelz, Dieter
CS Inst. Farbenchem., Univ. Basel, Basel, CH-4056, Switz.
SO Helvetica Chimica Acta (1981), 64(8), 2665-80
CODEN: HCACAV; ISSN: 0018-019X
DT Journal
LA German
IT **52765-68-1**
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidative dimerization of)
RN 52765-68-1 CAPLUS
CN Quinoxalinium, 6,7-dichloro-1,2,3-trimethyl-, perchlorate (9CI) (CA INDEX NAME)

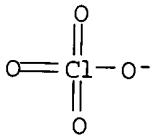
CM 1

CRN 52765-67-0
CMF C11 H11 Cl2 N2

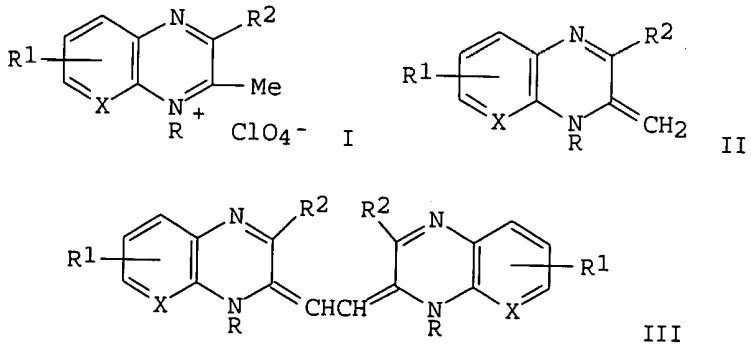


CM 2

CRN 14797-73-0
CMF Cl O4



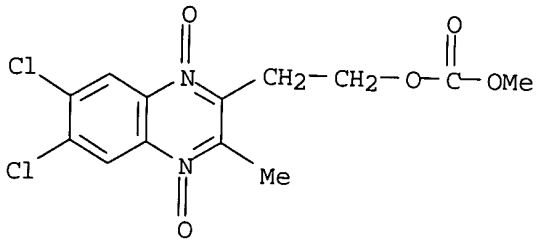
GI



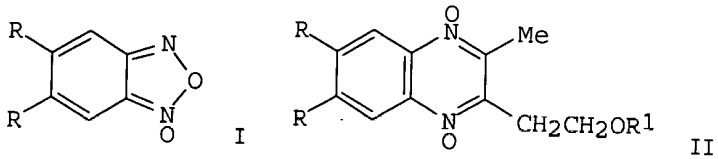
AB Quaternary salts I (R = Me, Ph, p-ClC6H4; R1 = H, electron acceptor or donor; R2 = Me, Ph; X = CH, N), in some cases in the presence of the corresponding II, undergo spontaneous conversion to III (all groups as defined for I) when dissolved in DMSO or DMF. Yields are 24-47%. Higher yields (up to 66%) are obtained by oxidn. of I, II, or I-II mixts. with Cu(OAc)2 or Ag2O. Visible and 1H-NMR spectra data for the dyes are given, and their structural relationship to S. Huenig's (1980) two-step redox systems is discussed.

L4 ANSWER 58 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1981:569132 CAPLUS
DN 95:169132

TI Preparation of some functionalized quinoxaline 1,4-dioxides
AU Usta, J. A.; Haddadin, M. J.; Issidorides, C. H.; Jarrar, A. A.
CS Chem. Dep., Am. Univ. Beirut, Beirut, Lebanon
SO Journal of Heterocyclic Chemistry (1981), 18(4), 655-8
CODEN: JHTCAD; ISSN: 0022-152X
DT Journal
LA English
IT **79441-11-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 79441-11-5 CAPLUS
CN Carbonic acid, 2-(6,7-dichloro-3-methyl-1,4-dioxido-2-quinoxalinyl)ethyl methyl ester (9CI) (CA INDEX NAME)



GI



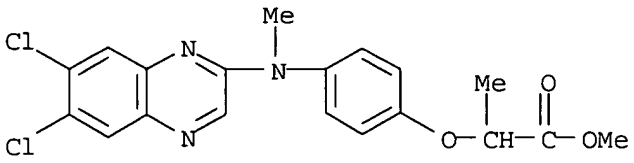
AB The prepn. of some functionalized quinoxaline 1,4-dioxides is described from the reaction of benzofurazan oxides with 2-acetylbutyrolactone, Et acetopyruvate, and acetylacetaldehyde dimethyl acetal. Thus, reaction of I with 2-acetylbutyrolactone gave 38-81% II (R = H, Me, R1 = H; R = Cl, R1 = CO2Me).

L4 ANSWER 59 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1981:462262 CAPLUS
DN 95:62262
TI Quinoxalinylaminophenoxyalkane carboxylic acid derivatives, their use as herbicides and intermediates
IN Serban, Alexander; Watson, Keith Geoffrey; Farquharson, Graeme John
PA ICI Australia Ltd. , Australia
SO Eur. Pat. Appl., 62 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

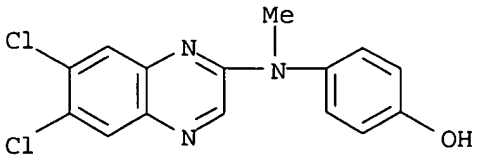
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 26622	A2	19810408	EP 1980-303315	19800922

EP 26622	A3	19810513		
R: AT, BE, CH, DE, FR, GB, IT, NL				
			AU 1979-702	19791002
AU 8062027	A1	19810409	AU 1980-62027	19800903
AU 534252	B2	19840112		
			AU 1979-702	19791002
US 4358307	A	19821109	US 1980-184973	19800908
			AU 1979-702	19791002
ZA 8005646	A	19810930	ZA 1980-5646	19800912
			AU 1979-702	19791002
CA 1169065	A1	19840612	CA 1980-360356	19800916
			AU 1979-702	19791002
JP 56057770	A2	19810520	JP 1980-135940	19801001
			AU 1979-702	19791002

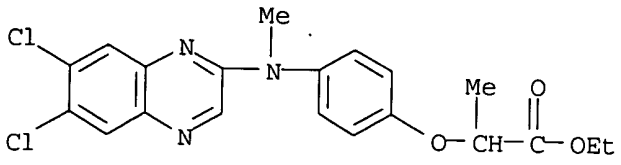
IT **78470-97-0P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(prepn. and herbicidal activity of)
RN 78470-97-0 CAPLUS
CN Propanoic acid, 2-[4-[(6,7-dichloro-2-quinoxalinyl)methylamino]phenoxy]-, methyl ester (9CI) (CA INDEX NAME)



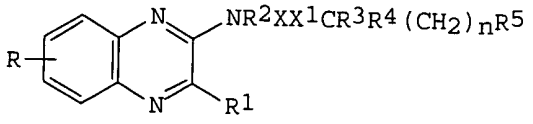
IT **78470-96-9P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and reaction of, with bromopropionate)
RN 78470-96-9 CAPLUS
CN Phenol, 4-[(6,7-dichloro-2-quinoxalinyl)methylamino]- (9CI) (CA INDEX NAME)



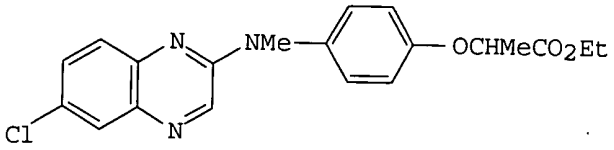
IT **78471-00-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 78471-00-8 CAPLUS
CN Propanoic acid, 2-[4-[(6,7-dichloro-2-quinoxalinyl)methylamino]phenoxy]-, ethyl ester (9CI) (CA INDEX NAME)



GI



I



II

AB The title compds. I (X = optionally substituted phenylene; X1 = O, S; n = 0-2; R, R1 = H, halogen, NO2, cyano, thiocyano, optionally substituted alkyl, amino, alkoxy, alkylthio, sulfonyl, carboxy, Ph, PhO, PhS; R2 = H, optionally substituted alkyl, acyl, Ph, Bz; R3 = H, optionally substituted alkyl, acyl; R4 = H, optionally substituted alkyl; R3R4 = alkylene; R5 = cyano, CSNH2, optionally esterified CO2H, acyl, substituted Me) were prepd. Thus, 2,6-dichloroquinoxaline was treated with 4-MeNHC6H4OH and BrCHMeCO2Et to give II which at 1 kg/ha post-emergence gave 100% kill of, e.g., wild oats and ryegrass.

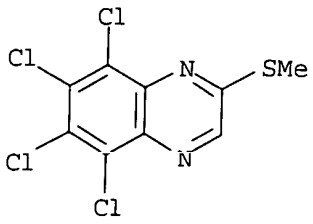
L4 ANSWER 60 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1981:121600 CAPLUS
DN 94:121600
TI Microbiocidal 2-sulfonylquinoxalines
IN Sasse, Klaus; Haller, Ingo; Plempel, Manfred; Zeiler, Hans Joachim; Metzger, Karl Georg; Haberkorn, Axel
PA Bayer A.-G., Fed. Rep. Ger.
SO Ger. Offen., 38 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2913728	A1	19801016	DE 1979-2913728	19790405
	EP 18493	A1	19801112	EP 1980-101525	19800322
	EP 18493	B1	19821201		
	R: AT, BE, CH, DE, FR, GB, IT, NL, SE				
	AT 1904	E	19821215	DE 1979-2913728	19790405
				AT 1980-101525	19800322
				DE 1979-2913728	19790405
				EP 1980-101525	19800322
	JP 55133363	A2	19801017	JP 1980-42928	19800403

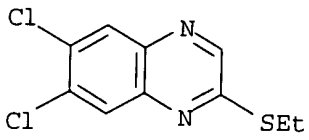
DE 1979-2913728 19790405

IT **76647-40-0P 76672-13-4P 76672-14-5P**
76672-15-6P 76672-16-7P 76685-37-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and oxidn. of, to sulfone)

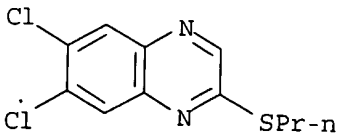
RN 76647-40-0 CAPLUS
CN Quinoxaline, 5,6,7,8-tetrachloro-2-(methylthio)- (9CI) (CA INDEX NAME)



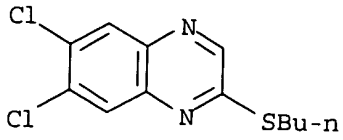
RN 76672-13-4 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-(ethylthio)- (9CI) (CA INDEX NAME)



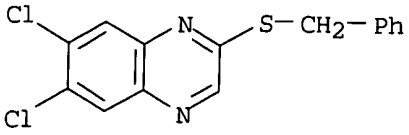
RN 76672-14-5 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-(propylthio)- (9CI) (CA INDEX NAME)



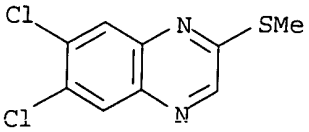
RN 76672-15-6 CAPLUS
CN Quinoxaline, 2-(butylthio)-6,7-dichloro- (9CI) (CA INDEX NAME)



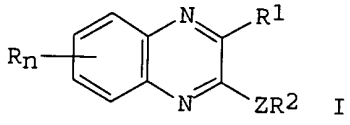
RN 76672-16-7 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-[(phenylmethyl)thio]- (9CI) (CA INDEX NAME)



RN 76685-37-5 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-(methylthio)- (9CI) (CA INDEX NAME)



GI



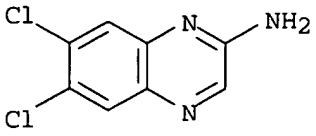
AB The title compds. I (R = halo, NO2, CF3; n = 1-4; R1 = alkyl, H, cycloalkyl, optionally substituted Ph; R2 = alkyl, cycloalkyl, aryl, aralkyl; Z = SO2), useful as antimycotics and bactericides (no data), were prepd. by oxidn. of the corresponding I (Z = S). Thus, I (Rn = 6-Cl, R1 = H, R2 = PhCH2, Z = S) was oxidized with KMnO4 in aq. HOAc to give 81.5% I (Z = SO2).

L4 ANSWER 61 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1981:47354 CAPLUS
DN 94:47354
TI Antiallergic heterocyclic compounds
IN Ramm, Peter John; Barnes, Alan Charles
PA Roussel Laboratories Ltd., UK
SO Brit. UK Pat. Appl., 11 pp.
CODEN: BAXXDU
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 2027707	A	19800227	GB 1979-26597	19790731
	GB 2027707	B2	19821117		
				GB 1978-31934	19780802
	SE 7906011	A	19800203	SE 1979-6011	19790710
	SE 439308	B	19850610		
	SE 439308	C	19850919		
				GB 1978-31934	19780802
	IL 57785	A1	19840131	IL 1979-57785	19790712
				GB 1978-31934	19780802
	FR 2432520	A1	19800229	FR 1979-18216	19790713

FR 2432520	B1	19821112			
			GB 1978-31934	19780802	
AT 7905143	A	19820915	AT 1979-5143	19790725	
AT 370734	B	19830425			
			GB 1978-31934	19780802	
ZA 7903843	A	19800924	ZA 1979-3843	19790726	
			GB 1978-31934	19780802	
US 4254123	A	19810303	US 1979-61626	19790730	
			GB 1978-31934	19780802	
JP 55022682	A2	19800218	JP 1979-96869	19790731	
JP 01041637	B4	19890906			
			GB 1978-31934	19780802	
HU 20356	O	19810728	HU 1979-RO1033	19790731	
HU 178089	P	19820328			
			GB 1978-31934	19780802	
BE 878028	A1	19800201	BE 1979-196568	19790801	
			GB 1978-31934	19780802	
DK 7903249	A	19800203	DK 1979-3249	19790801	
			GB 1978-31934	19780802	
AU 7949462	A1	19800207	AU 1979-49462	19790801	
AU 528158	B2	19830414			
			GB 1978-31934	19780802	
ES 483039	A1	19800901	ES 1979-483039	19790801	
			GB 1978-31934	19780802	
CA 1121353	A1	19820406	CA 1979-333014	19790801	
			GB 1978-31934	19780802	
NL 7905956	A	19800205	NL 1979-5956	19790802	
			GB 1978-31934	19780802	
DE 2931418	A1	19800228	DE 1979-2931418	19790802	
DE 2931418	C2	19890629			
			GB 1978-31934	19780802	
CH 641806	A	19840315	CH 1979-7105	19790802	
			GB 1978-31934	19780802	

IT **76002-68-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and addn. reaction of, with Et bromopyruvate)
RN 76002-68-1 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro- (9CI) (CA INDEX NAME)



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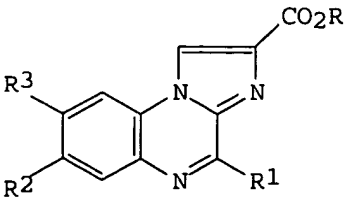
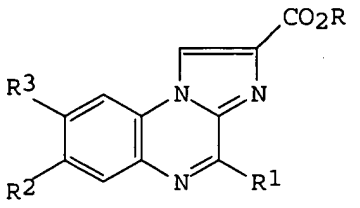


I



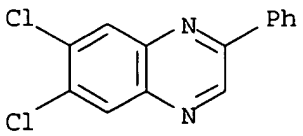
I

AB Imidazoquinoxalines I (R = H, C1-5 alkyl; R1 = C1-5 alkoxy, carbamoyl; R2, R3 = H, halo) and I salts, which possess antiallergic activity, were prepd. E.g., 2-aminoquinoxaline on reaction with Et bromopyruvate followed by intramol. cyclocondensation reaction gave I (R = Et, R1-3 = H), which on hydrolysis gave I (R-R3 = H). The antiallergic activities of I were assessed for the treatment of passive cutaneous anaphylaxis in rats. Compns. contg. I are described.

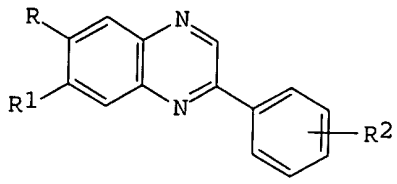
L4 ANSWER 62 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1979:593335 CAPLUS
DN 91:193335
TI Improvements in and relating to herbicidal compositions containing phenylquinoxaline compounds
IN Clark, Michael Thomas
PA Shell Internationale Research Maatschappij B. V., Neth.
SO Brit., 8 pp.
CODEN: BRXXAA
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI GB 1543560	A	19790404	GB 1975-17748	19760427
			GB 1975-17748	19760427

IT **71896-95-2P**
RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
(herbicide, prepn. of)
RN 71896-95-2 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-phenyl- (9CI) (CA INDEX NAME)



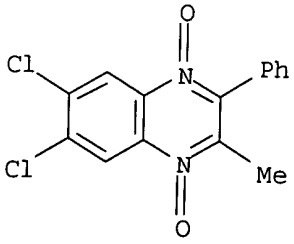
GI



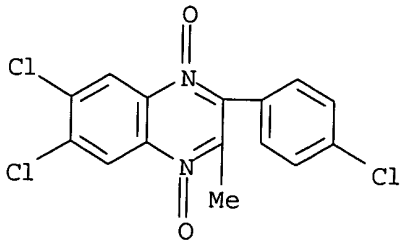
I

AB The prepn. is described of herbicidal compns. contg. phenylquinoxalines I [R and R1 (same or different) are H, halo, alkyl, NO2, CO2H; R2 = H, halo, OH, alkyl, alkoxy, alkylthio, NO2, optionally substituted amino), their salts, 1-oxide derivs., 1,4-dioxide derivs., or 1,2-dihydro derivs.; I were synthesized. Thus, I (R = R1 = Cl, R2 = H) was prepd. (90%) by the reaction of 4,5,2-Cl2(H2N)C6H2NH2 with PhCOCHO in EtOH (reflux, 30 min).

L4 ANSWER 63 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1979:168546 CAPLUS
DN 90:168546
TI Quinoxaline 1,4-dioxides
AU Mahajanshetti, C. S.; Balse, Mukta N.
CS Dep. Chem., Karnatak Univ., Dharwad, India
SO Indian Journal of Chemistry, Section B: Organic Chemistry Including Medicinal Chemistry (1978), 16B(9), 830-2
CODEN: IJSBDB; ISSN: 0376-4699
DT Journal
LA English
IT **70071-20-4P 70071-21-5P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and NMR spectrum of, oxide group anisotropic effect in)
RN 70071-20-4 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-methyl-3-phenyl-, 1,4-dioxide (9CI) (CA INDEX NAME)

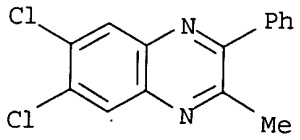


RN 70071-21-5 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-(4-chlorophenyl)-3-methyl-, 1,4-dioxide (9CI) (CA INDEX NAME)

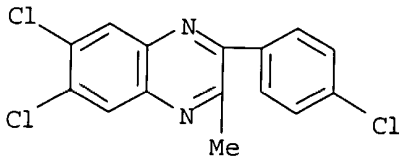


IT **70071-10-2P 70071-11-3P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and oxidn. of)

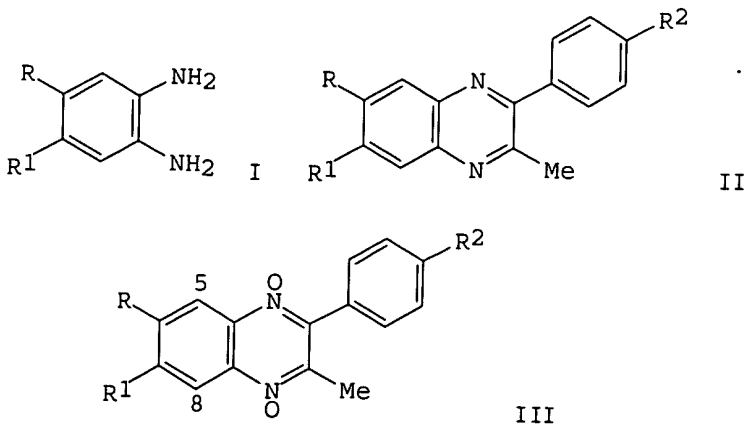
RN 70071-10-2 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-methyl-3-phenyl- (9CI) (CA INDEX NAME)



RN 70071-11-3 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-(4-chlorophenyl)-3-methyl- (9CI) (CA INDEX NAME)



GI



AB Cyclocondensation of diaminobenzenes I (R = R1 = Me, Cl; R = NO2, R1 = H) with 4-R2C6H4COCOMe (R2 = H, Cl) gave the methylquinoxalines II (R = R1 = Me, Cl; R, R1 = H, NO2; R2 = H, Cl), which were oxidized by MeC(O)O2H to give quinoxaline dioxides III. The anisotropic effect of the oxide groups in III on the NMR chem. shift of the C-5 and C-8 H in III was discussed.

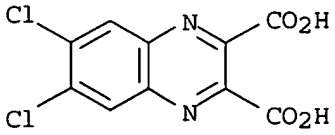
L4 ANSWER 64 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1977:440743 CAPLUS
DN 87:40743
TI Chromogenic furoquinoxalines
IN Farber, Sheldon
PA NCR Corp., USA
SO U.S., 9 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4020068	A	19770426	US 1975-554257	19750228
				US 1974-468112	19740508
	GB 1458178	A	19761208	GB 1975-13887	19750404
				US 1974-468112	19740508
	JP 51010835	A2	19760128	JP 1975-50191	19750424
	JP 55031757	B4	19800820		
				US 1974-468112	19740508
				US 1975-554257	19750228

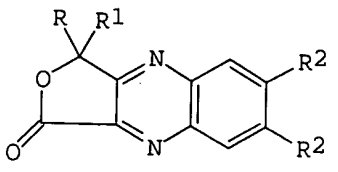
PATENT FAMILY INFORMATION:
FAN 1976:137227

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2520148	A1	19760122	DE 1975-2520148	19750506
	DE 2520148	C2	19870903		
				US 1974-468112	19740508
	GB 1458178	A	19761208	GB 1975-13887	19750404
				US 1974-468112	19740508

IT **58824-88-7P**
RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. and condensation with arom. amines)
RN 58824-88-7 CAPLUS
CN 2,3-Quinoxalinedicarboxylic acid, 6,7-dichloro- (9CI) (CA INDEX NAME)



GI



I

AB Title compds. I (R, R1 = aminophenyl, indolyl; R = H, Cl, Me), giving green to purple colors in contact with an acidic material, were prepd. for use in pressure-sensitive record systems. I were prepd. by condensing 2,3-quinazolinedicarboxylic anhydrides (II) with 1 mol arom. amine to give the keto acid and then with a 2nd mol of amine, or (R = R1) by condensing II with 2 mol arom. amine in a single step. Typical compds. are I [R = R1 = 2,4-Me(Et2N)C6H3, R2 = H] [58824-92-3], green in contact with acid, and I [R = 1-isopentyl-2-methylindol-3-yl, R1 = 2,4-EtO(Et2N)C6H3, R2 = H] [58824-82-1], deep blue.

L4 ANSWER 65 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1977:190008 CAPLUS
DN 86:190008
TI Substituted alkyl esters of quinoxaline-di-N-oxide-2-carboxylic acid
IN Cronin, Timothy H.; Richardson, Kenneth
PA Pfizer Inc., USA
SO U.S., 28 pp. Division of U.S. 3,915,975.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 6

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4007184	A	19770208	US 1975-621219	19751009
				US 1970-20841	19700318
				US 1971-135792	19710420
				US 1973-397162	19730913
	US 3818007	A	19740618	US 1971-135792	19710420
				US 1970-20841	19700318
	BE 781363	A4	19720929	BE 1972-3905	19720329
				BE 1971-764088	19710311
				US 1971-135792	19710420
	US 3841254	A	19741015	US 1973-325354	19730122
				GB 1972-4505	19720131
	DK 135718	B	19770613	DK 1973-4320	19730807
				US 1970-20841	19700318
				US 1970-20842	19700318
				DK 1971-999	19710304
	DK 137958	B	19780612	DK 1973-4321	19730807
	DK 137958	C	19781106		
				US 1970-20841	19700318
				US 1970-20842	19700318
				DK 1971-999	19710304
	US 3915975	A	19751028	US 1973-397162	19730913
				US 1970-20841	19700318
				US 1971-135792	19710420

PATENT FAMILY INFORMATION:
FAN 1972:3900

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

PI	DE 2111710	A	19710930
	DE 2111710	C3	19790913
	DE 2111710	B2	19790125
	US 3671521	A	19720620
	GB 1330151	A	19730912
	ZA 7101022	A	19711229
	ES 388787	A1	19740201
	DK 131677	B	19750818
	NL 7102953	A	19710921
	AT 315865	B	19740610
	IT 1019008	A	19771110
	JP 54034756	B4	19791029
	BE 764088	A1	19710913
	FR 2085717	A5	19711231
	FR 2085717	B1	19750606
	CH 535242	A	19730515
	CH 539061	A	19730831
	CH 557356	A	19741231
	US 3841254	A	19741015
	DK 135718	B	19770613
	DK 137958	B	19780612
	DK 137958	C	19781106
	US 3870718	A	19750311

DE 1971-2111710	19710311
US 1970-20841	19700318
US 1970-20842	19700318
US 1970-20842	19700318
GB 1970-52312	19701103
US 1970-20841	19700318
US 1970-20842	19700318
ZA 1971-1022	19710217
US 1970-20841	19700318
US 1970-20842	19700318
ES 1971-388787	19710302
US 1970-20841	19700318
US 1970-20842	19700318
DK 1971-999	19710304
US 1970-20841	19700318
US 1970-20842	19700318
NL 1971-2953	19710305
US 1970-20841	19700318
US 1970-20842	19700318
AT 1971-1915	19710305
US 1970-20841	19700318
US 1970-20842	19700318
IT 1971-48832	19710305
US 1970-20841	19700318
US 1970-20842	19700318
JP 1971-11361	19710305
US 1970-20841	19700318
US 1970-20842	19700318
BE 1971-2940	19710311
US 1970-20841	19700318
US 1970-20842	19700318
FR 1971-8799	19710312
US 1970-20842	19700318
CH 1972-4176	19710312
US 1970-20841	19700318
US 1970-20842	19700318
CH 1972-3708	19710312
US 1970-20841	19700318
US 1970-20842	19700318
CH 1971-3667	19710312
US 1970-20841	19700318
US 1970-20842	19700318
US 1973-325354	19730122
GB 1972-4505	19720131
DK 1973-4320	19730807
US 1970-20841	19700318
US 1970-20842	19700318
DK 1971-999	19710304
DK 1973-4321	19730807
US 1970-20841	19700318
US 1970-20842	19700318
DK 1971-999	19710304
US 1973-405114	19731010

	JP 53127487	A2	19781107
	JP 55004749	B4	19800131
	JP 53127486	A2	19781107
	JP 55004748	B4	19800131
	NL 7808009	A	19781130
	NL 7808008	A	19781130

FAN 1973:72208

	PATENT NO.	KIND	DATE
PI	DE 2215231	A	19721207
	US 3818007	A	19740618
	GB 1377306	A	19741211
	SE 394279	B	19770620
	ZA 7202025	A	19721227
	CA 982133	A1	19760120
	DK 142849	B	19810209
	DK 142849	C	19810928
	BE 781363	A4	19720929
	AT 318617	B	19741111
	ES 401333	A2	19750316
	FI 54473	C	19781211
	NL 7204391	A	19721024
	FR 2133597	A6	19721201
	FR 2133597	B2	19751226
	US 3841254	A	19741015
	JP 55062074	A2	19800510
	JP 56000431	B4	19810108

FAN 1975:428285

	PATENT NO.	KIND	DATE
PI	AT 315188	B	19740510

APPLICATION NO.	DATE
US 1970-20842	19700318
US 1971-207534	19711213
JP 1978-48319	19780422
US 1970-208417	19700318
US 1970-20842	19700318
JP 1978-48318	19780422
US 1970-208417	19700318
US 1970-20842	19700318
NL 1978-8009	19780728
US 1970-20841	19700318
US 1970-20842	19700318
NL 1978-8008	19780728
US 1970-20841	19700318
US 1970-20842	19700318

APPLICATION NO.	DATE
DE 1972-2215231	19720329
US 1971-135792	19710420
US 1971-135792	19710420
US 1970-20841	19700318
GB 1972-4505	19720131
US 1971-135792	19710420
SE 1972-3794	19720323
US 1971-135792	19710420
ZA 1972-2025	19720324
US 1971-135792	19710420
CA 1972-138047	19720324
US 1971-135792	19710420
DK 1972-1493	19720328
US 1971-135792	19710420
BE 1972-3905	19720329
BE 1971-764088	19710311
US 1971-135792	19710420
AT 1972-2749	19720329
US 1971-135792	19710420
ES 1972-401333	19720329
US 1971-135792	19710420
FI 1972-883	19720329
US 1971-135792	19710420
NL 1972-4391	19720330
US 1971-135792	19710420
FR 1972-11322	19720330
US 1971-135792	19710420
US 1973-325354	19730122
GB 1972-4505	19720131
JP 1979-117177	19790912
US 1971-135792	19710420

APPLICATION NO.	DATE
AT 1973-1056	19710305
US 1970-20841	19700318

	CA 942309	A1	19740219	CA 1971-107113	19710308
				US 1970-20841	19700318
	US 3841254	A	19741015	US 1973-325354	19730122
				GB 1972-4505	19720131
	DK 135718	B	19770613	DK 1973-4320	19730807
				US 1970-20841	19700318
				US 1970-20842	19700318
				DK 1971-999	19710304
	DK 137958	B	19780612	DK 1973-4321	19730807
	DK 137958	C	19781106		
				US 1970-20841	19700318
				US 1970-20842	19700318
				DK 1971-999	19710304

FAN 1976:17427

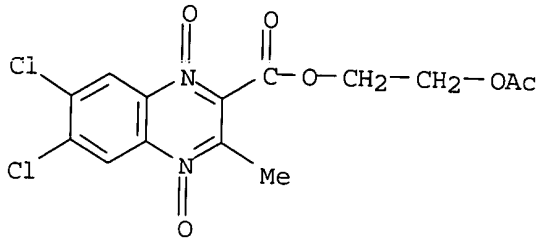
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3907994	A	19750923	US 1973-397163	19730913
				US 1970-20841	19700318
				US 1971-135792	19710420
	US 3818007	A	19740618	US 1971-135792	19710420
				US 1970-20841	19700318
	BE 781363	A4	19720929	BE 1972-3905	19720329
				BE 1971-764088	19710311
				US 1971-135792	19710420
	US 3841254	A	19741015	US 1973-325354	19730122
				GB 1972-4505	19720131
	DK 135718	B	19770613	DK 1973-4320	19730807
				US 1970-20841	19700318
				US 1970-20842	19700318
				DK 1971-999	19710304
	DK 137958	B	19780612	DK 1973-4321	19730807
	DK 137958	C	19781106		
				US 1970-20841	19700318
				US 1970-20842	19700318
				DK 1971-999	19710304

FAN 1976:59564

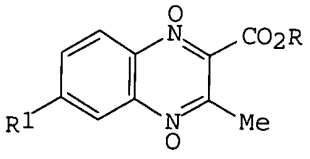
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3915975	A	19751028	US 1973-397162	19730913
				US 1970-20841	19700318
				US 1971-135792	19710420
	US 3818007	A	19740618	US 1971-135792	19710420
				US 1970-20841	19700318
	BE 781363	A4	19720929	BE 1972-3905	19720329
				BE 1971-764088	19710311
				US 1971-135792	19710420
	US 3841254	A	19741015	US 1973-325354	19730122
				GB 1972-4505	19720131
	DK 135718	B	19770613	DK 1973-4320	19730807
				US 1970-20841	19700318
				US 1970-20842	19700318
				DK 1971-999	19710304
	DK 137958	B	19780612	DK 1973-4321	19730807
	DK 137958	C	19781106		
				US 1970-20841	19700318
				US 1970-20842	19700318
				DK 1971-999	19710304
	US 4007184	A	19770208	US 1975-621219	19751009

US 1970-20841 19700318
US 1971-135792 19710420
US 1973-397162 19730913

IT **62730-73-8P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(prepn. and bactericidal activity of)
RN 62730-73-8 CAPLUS
CN 2-Quinoxalinecarboxylic acid, 6,7-dichloro-3-methyl-, 2-(acetyloxy)ethyl ester, 1,4-dioxide (9CI) (CA INDEX NAME)



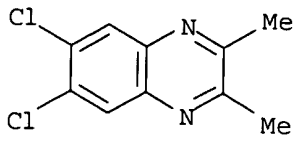
GI



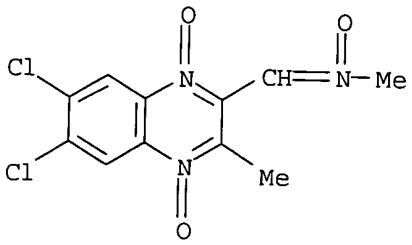
I

AB Quinoxalinecarboxylates I (R = substituted alkyl, R1 = H, Cl) (30 compds.) were prepd. Thus, benzofuroxan was condensed with AcOCH2CH2O2CCH2COMe to give I (R = AcOCH2CH2, R1 = H), which had min. inhibitory concns. against Staphylococcus aureas and EScherichia coli 12.5 and 50, resp., and at 50 g/ton in swine feed gave 53% wt. gain over controls.

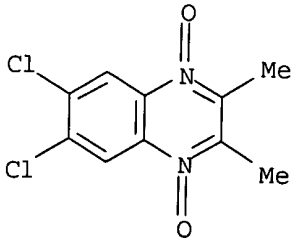
L4 ANSWER 66 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1977:114992 CAPLUS
DN 86:114992
TI Nitrones. 7. .alpha.-Quinoxalinyl-N-substituted nitrone 1,4-dioxides
AU Kim, Hyun K.; Miller, Laird F.; Bambury, Ronald E.; Ritter, Harry W.
CS Merrell-Natl. Lab. Div., Richardson-Merrell, Inc., Cincinnati, OH, USA
SO Journal of Medicinal Chemistry (1977), 20(4), 557-60
CODEN: JMCMAR; ISSN: 0022-2623
DT Journal
LA English
IT **52736-71-7**
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidn. of)
RN 52736-71-7 CAPLUS
CN Quinoxaline, 6,7-chloro-2,3-dimethyl- (9CI) (CA INDEX NAME)



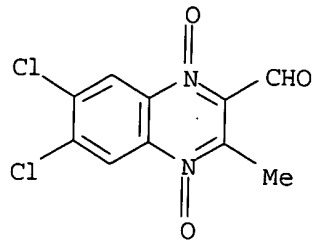
IT **32020-58-9P**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn. and bactericidal activity of)
RN 32020-58-9 CAPLUS
CN Methanamine, N-[(6,7-dichloro-3-methyl-1,4-dioxido-2-quinoxalinyl)methylene]-, N-oxide (9CI) (CA INDEX NAME)



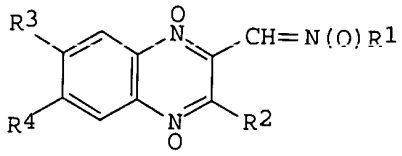
IT **62018-39-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 62018-39-7 CAPLUS
CN Quinoxaline, 6,7-dichloro-2,3-dimethyl-, 1,4-dioxide (9CI) (CA INDEX NAME)



IT **62018-44-4**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with methyl hydroxylamine, nitrone from)
RN 62018-44-4 CAPLUS
CN 2-Quinoxalinecarboxaldehyde, 6,7-dichloro-3-methyl-, 1,4-dioxide (9CI) (CA INDEX NAME)



GI



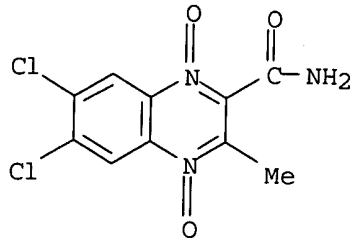
I

AB A series of 25 title compds. (I : R1 = Me, Et, Ph, substituted alkyl or aryl, cyclohexyl, heterocycle; R3 = H, Me;R3 = H, Me, OMe, CF3, Cl, NO2; R4 = H, Cl) were prepd. by condensation of the appropriate carboxaldehyde with an N-substituted hydroxylamine. The compds. had weak in vitro activity against gram-neg. and gram-pos. bacteria compared to in vivo activity. The most active compd., in vivo, was .alpha.-(3-methyl-2-quinoxalinyl)-N-methylnitrone 1,4-dioxide (II) [32160-34-2], with activity comparable to or greater than chloramphenicol or nifuratrone in most cases and lower toxicity. All variations from the structure of II led to decreased activity expecpt for .alpha.-(3,7-dimethyl-2-quinoxalinyl)-N-methylnitrone 1,4-dioxide [62018-32-0], which had activity comparable to II. The compds. required the 1,4-dioxide substituents for activity. Only II showed exceptional activity against Proteus vulgaris and Salmonella schottmuelleri.

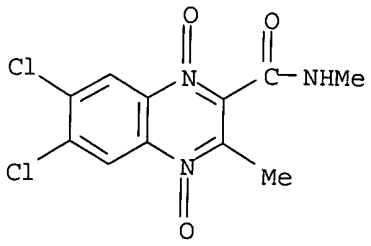
L4 ANSWER 67 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1976:560164 CAPLUS
DN 85:160164
TI Improvements in or relating to 1-hydroxy-3-oxo-benzimidazoles, quinoxaline-di-N-oxides and benzimidazole-mono- and di-N-oxides
PA Research Corp., USA
SO Brit. Amended, 35 pp. Addn. to Brit. 1,215,815.
CODEN: BSXXAH
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 1308370		19760122		
				US 1969-883577	19691209

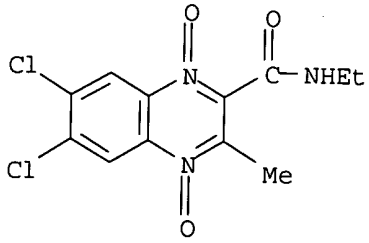
IT **31683-03-1P 31683-07-5P 31683-12-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(antimicrobial agent, prepn. of)
RN 31683-03-1 CAPLUS
CN 2-Quinoxalinecarboxamide, 6,7-dichloro-3-methyl-, 1,4-dioxide (8CI, 9CI) (CA INDEX NAME)



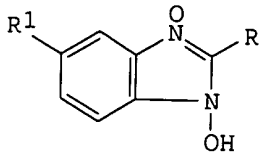
RN 31683-07-5 CAPLUS
CN 2-Quinoxalinecarboxamide, 6,7-dichloro-N,3-dimethyl-, 1,4-dioxide (8CI, 9CI) (CA INDEX NAME)



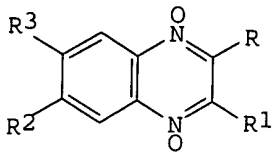
RN 31683-12-2 CAPLUS
CN 2-Quinoxalinecarboxamide, 6,7-dichloro-N-ethyl-3-methyl-, 1,4-dioxide (8CI, 9CI) (CA INDEX NAME)



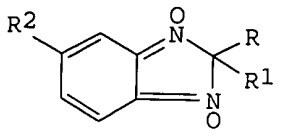
GI



I



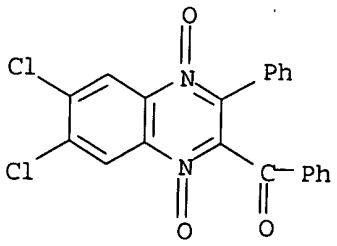
II

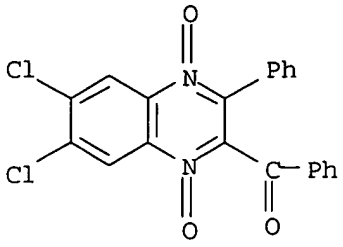


III

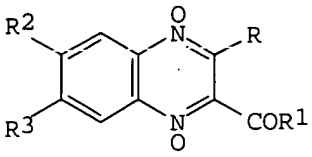
AB Nineteen 1-hydroxy-3-oxobenzimidazoles I [R = H, alkyl, (CH2)2CONH2, CO2Et; R1 = Cl, F, OMe, Me, CF3, SO2NH2, SO2NHMe, SO2NMe2], 213 quinoxaline di-N-oxides II [R = Me, alkoxycarbonyl, CO2Ph, CO2C7H7 (C7H7 = cycloheptatrienyl), CN, Ph, dialkoxymethyl; R1 = COMe, alkoxycarbonyl, N-substituted carbamoyl, CONH2, OH, NH2, sulfoalkyl; RR1 = monosubstituted alkylene, (CH2)nX(CH2)m (n = 0, 1; m = 2, 3; X = NH, NMe, NBu, NPh, NC7H7, O, S); R2,R 3 = H, Me, alkoxy, halo, SO2NH2, SO2NHMe, SO2NMe2; R3 = CF3], and 19 benzimidazole di-N-oxides III [R = Me, Et; R1 = Me, Et, CH2Cl, CH2Br, CH2OH, CH2NEt2; RR1 = (CH2)5; R2 = H, halo, OMe, CF3; SO2NH2, SO2NHMe, SO2NMe2], useful as antimicrobial agents, were prepd. from benzofuroxans by treatment with RCH2NO2, RCOCH2R1, and RCHR1NO2, resp. Thus, II (R = Me, R1 = COMe, R2 = R3 = H) was prepd. by stirring benzofuroxan with equimolar (MeCO)2CH2 and PrNH2 in THF overnight at room temp. The antimicrobial activities of I, II, and III were assessed in vivo and in vitro.

L4 ANSWER 68 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1976:559031 CAPLUS
DN 85:159031
TI Photolysis of some quinoxaline 1,4-dioxides. A method of structural assignment
AU Jarrar, Adil A.; Halawi, Safi S.; Haddadin, Makhluf J.
CS Dep. Chem., Am. Univ. Beirut, Beirut, Lebanon
SO Heterocycles (1976), 4(6), 1077-82
CODEN: HTCYAM; ISSN: 0385-5414
DT Journal
LA English
IT **60680-42-4**
RL: RCT (Reactant); RACT (Reactant or reagent)
(photolytic rearrangement of, structure in relation to)
RN 60680-42-4 CAPLUS
CN Methanone, (6,7-dichloro-1,4-dioxido-3-phenyl-2-quinoxalinyl)phenyl- (9CI) (CA INDEX NAME)

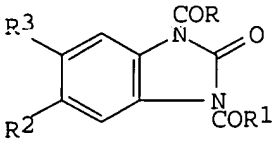




GI



I



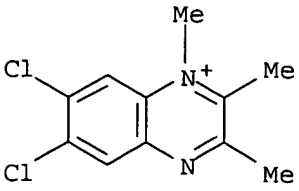
II

AB Structural assignment of I (R = Me, Et, Ph; R1 = Et, Ph, Me2CH, Me3C; R2 = H, Me, Cl, CF3; R3 = H, Me, MeO, Cl, CF3) was made on the basis of the NMR spectra of the photolytic rearrangement products II.

L4 ANSWER 69 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1976:181595 CAPLUS
DN 84:181595
TI Cyclization of quinonylmethane dyes and analogous merocyanines. 4. Dihydroanthracenophenazinones
AU Schelz, Dieter; Priester, Martin
CS Inst. Farbenchem., Univ. Basel, Basel, Switz.
SO Helvetica Chimica Acta (1976), 59(2), 688-92
CODEN: HCACAV; ISSN: 0018-019X
DT Journal
LA German
IT **52765-68-1**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with chloroanthracenedione derivs. in presence of base)
RN 52765-68-1 CAPLUS
CN Quinoxalinium, 6,7-dichloro-1,2,3-trimethyl-, perchlorate (9CI) (CA INDEX NAME)

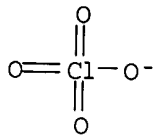
CM 1

CRN 52765-67-0
CMF C11 H11 Cl2 N2

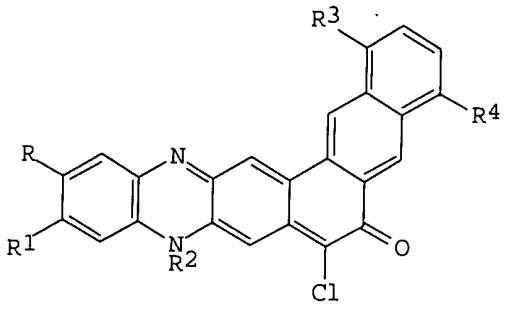


CM 2

CRN 14797-73-0
CMF Cl O4



GI



I

AB Dihydroanthraceno[1,2-b]phenazinones (I, R, R1 = H, Me, Cl; R2 = Me, Et, cyclohexyl, p-O2NC6H4CH2; R3, R4 = H, Cl) were prepd. by reaction of 1-R2-2,3-dimethylquinoxalinium perchlorate derivs. with 2,3-dichloro-1,4-anthraquinone [14681-17-5] or 2,3,5,8-tetrachloro-1,4-anthraquinone (II) [59118-01-3] and cyclization of the intermediate (quinoxalinylidenemethyl)anthraquinones. Visible, mass, and NMR spectra of I were given. II was prepd. by chlorination of 1,4-anthraquinone [635-12-1] in boiling HOAc in the presence of iodine.

L4 ANSWER 70 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1976:137227 CAPLUS
DN 84:137227
TI Chromogenic quinoxaline compounds
IN Farber, Sheldon
PA NCR Corp., USA
SO Ger. Offen., 26 pp. Addn. to Ger. Offen. 2,259,409.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2520148	A1	19760122	DE 1975-2520148	19750506
	DE 2520148	C2	19870903		
				US 1974-468112	19740508
	GB 1458178	A	19761208	GB 1975-13887	19750404
				US 1974-468112	19740508

PATENT FAMILY INFORMATION:

FAN 1977:440743

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4020068	A	19770426	US 1975-554257	19750228
				US 1974-468112	19740508
	GB 1458178	A	19761208	GB 1975-13887	19750404
				US 1974-468112	19740508
	JP 51010835	A2	19760128	JP 1975-50191	19750424
	JP 55031757	B4	19800820		
				US 1974-468112	19740508
				US 1975-554257	19750228

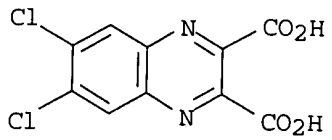
IT **58824-88-7P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

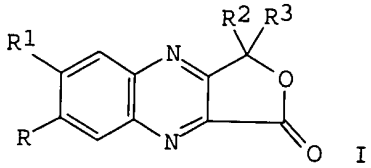
(prepn. and reaction with trimethylpyrrole)

RN 58824-88-7 CAPLUS

CN 2,3-Quinoxalinedicarboxylic acid, 6,7-dichloro- (9CI) (CA INDEX NAME)



GI



I

AB Furoquinoxalines (I, R, R1 = H, Me, Cl; R2, R3 = 1-isopentyl-2-methylindol-3-yl; 4-Me2NC6H4 derivs., 1,2,5-trimethylpyrr-3-yl) were prepd. and were used as color formers for pressure-sensitive copying paper giving orange to blue shades in contact with an acidic substrate. Thus, 2,3-quinoxalinedicarboxylic anhydride [5660-34-4] was condensed with m-MeC6H4NEt2 (II) [91-67-8] in CH2Cl2 in the presence of AlCl3 to give 2-[2-methyl-4-(diethylamino)benzoyl]-quinoxalinecarboxylic acid [58824-81-0] which was condensed with II in HOAc to give I(R = R1 = H, R2 = R3 = 2,4-Me(Et2N)C6H3) [58824-92-3], brilliant green in contact with an acidic substrate. The other I were similarly prepd.

L4 ANSWER 71 OF 100 CAPLUS COPYRIGHT 2003 ACS

AN 1975:589141 CAPLUS

DN 83:189141

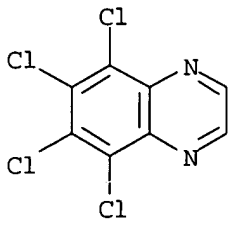
TI Fungicidal composition

AU Anon.

CS Fisons Ltd., Ipswich/Suffolk, UK

SO Research Disclosure (1974), 127, 23
CODEN: RSDSBB; ISSN: 0374-4353

DT Journal
LA English
IT **3495-42-9**
RL: BIOL (Biological study)
(cereal fungicide)
RN 3495-42-9 CAPLUS
CN Quinoxaline, 5,6,7,8-tetrachloro- (7CI, 8CI, 9CI) (CA INDEX NAME)



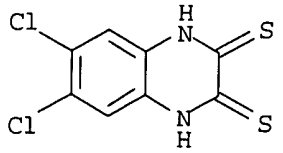
GI For diagram(s), see printed CA Issue.
AB A compn. of manganese ethylenebis(dithiocarbamate) [12427-38-2] and/or zinc ethylenebis(dithiocarbamate) [12122-67-7] with 5,6,7,8-tetrachloroquinoxaline (I) [**3495-42-9**] is a fungicide suitable for cereals.

L4 ANSWER 72 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1975:57737 CAPLUS
DN 82:57737
TI Pesticidal 2-[(trifluoromethyl)imino]-1,3-dithiolo[4,5-b]quinoxalines
IN Buettner, Gerhard; Sasse, Klaus; Hammann, Ingeborg; Kaspers, Helmut
PA Bayer, A.-G.
SO Ger. Offen., 27 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2322434	A1	19741121	DE 1973-2322434	19730504
	US 3932406	A	19760113	US 1974-463642	19740423
				DE 1973-2322434	19730504
	BE 814386	A1	19741030	BE 1974-143774	19740430
				DE 1973-2322434	19730504
	NL 7405846	A	19741106	NL 1974-5846	19740501
				DE 1973-2322434	19730504
	BR 7403564	A0	19741126	BR 1974-3564	19740502
				DE 1973-2322434	19730504
	JP 50013396	A2	19750212	JP 1974-48914	19740502
				DE 1973-2322434	19730504
	JP 50013532	A2	19750213	JP 1974-48915	19740502
				DE 1973-2322434	19730504
	DD 113546	C	19750612	DD 1974-178253	19740502
				DE 1973-2322434	19730504
	CH 562825	A	19750613	CH 1974-6009	19740502
				DE 1973-2322434	19730504
	FR 2228066	A1	19741129	FR 1974-15474	19740503
				DE 1973-2322434	19730504
	GB 1411213	A	19751022	GB 1974-19533	19740503

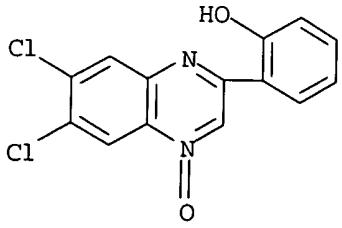
DE 1973-2322434 19730504

IT **55295-04-0**
RL: PROC (Process)
(cycloaddn. of, with perfluoroazapropene)
RN 55295-04-0 CAPLUS
CN 2,3-Quinoxalinedithione, 6,7-dichloro-1,4-dihydro- (9CI) (CA INDEX NAME)

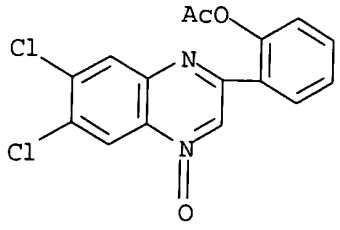


GI For diagram(s), see printed CA Issue.
AB Thirteen imines I (Rn = e.g. H, 5- or 6-Me or -Cl, 6-F3C, 6-MeCO, 6-O2N, 6-MeO, 6,7- or 6,8-Cl2, or 6,8-Me2) were prepd. and(or) used as acaricides, fungicides, and insecticides. Thus, 6-chloro-2,3-dimercaptoquinoxaline in DMF contg. Et3N reacted with F2C:NCF3 at room temp. to give 75% I (Rn = 6-Cl).

L4 ANSWER 73 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1975:16786 CAPLUS
DN 82:16786
TI Reaction of benzofurazan oxides with benzofuran-3(2H)-ones, and a new synthesis of benzofuro[2,3-b]quinoxalines
AU Zamet, Jean J.; Haddadin, Makhluf J.; Issidorides, Costas H.
CS Dep. Chem., Am. Univ. Beirut, Beirut, Lebanon
SO Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1974), (14), 1687-91
CODEN: JCPRB4; ISSN: 0300-922X
DT Journal
LA English
IT **54450-25-8P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and cyclization of)
RN 54450-25-8 CAPLUS
CN Phenol, 2-(6,7-dichloro-4-oxido-2-quinoxalinyl)- (9CI) (CA INDEX NAME)



IT **54450-26-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 54450-26-9 CAPLUS
CN Phenol, 2-(6,7-dichloro-4-oxido-2-quinoxalinyl)-, acetate (ester) (9CI) (CA INDEX NAME)



GI For diagram(s), see printed CA Issue.

AB Benzofuran 1-oxide (I) with benzofuran-3(2H)-ones gave 55-80% quinoxaline oxides which cyclized to benzofuroquinoxalines. E.g., I with benzofuranone II gave 80% III which cyclized to give 70% IV. The benzofurazan oxides V and VI reacted similarly. The benzofuranones were substrates and reductants.

L4 ANSWER 74 OF 100 CAPLUS COPYRIGHT 2003 ACS

AN 1975:5346 CAPLUS

DN 82:5346

TI Ring closing in quinonylmethane dyes and merocyanine analogs. 1. Substituted dihydronaphtho[1,2-b]phenazinones as a new type of percyclic merocyanine

AU Schelz, Dieter

CS Inst. Farbenchem., Univ. Basel, Basel, Switz.

SO Helvetica Chimica Acta (1974), 57(4), 1075-85
CODEN: HCACAV; ISSN: 0018-019X

DT Journal

LA German

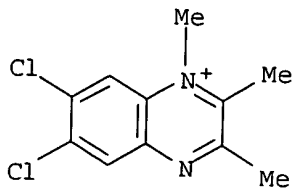
IT **52765-68-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 52765-68-1 CAPLUS

CN Quinoxalinium, 6,7-dichloro-1,2,3-trimethyl-, perchlorate (9CI) (CA INDEX NAME)

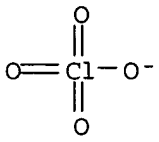
CM 1

CRN 52765-67-0
CMF C11 H11 Cl2 N2

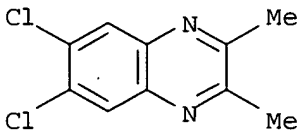


CM 2

CRN 14797-73-0
CMF Cl O4

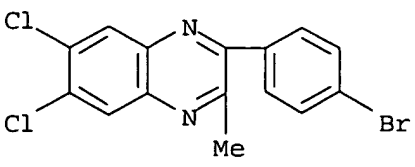


IT **52736-71-7**
RL: RCT (Reactant); RACT (Reactant or reagent)
(quaternization of)
RN 52736-71-7 CAPLUS
CN Quinoxaline, 6,7-chloro-2,3-dimethyl- (9CI) (CA INDEX NAME)



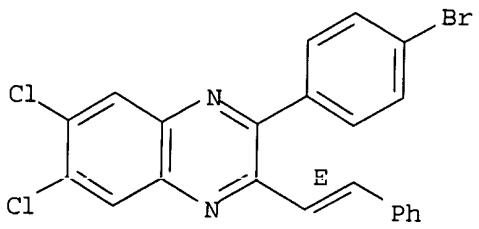
GI For diagram(s), see printed CA Issue.
AB Dihydronaphtho[1,2-b]phenazinone dyes [I R = H, Me, Cl; R1 = Me, Et; (RR) = benzo] were pred. by cyclization of the corresponding [(1-alkyl-3-methyl-2-quinoxalinylidene)methyl]naphthoquinones. The visible and the H NMR spectra were discussed. Thus, 1,2,3-trimethylquinoxalinium perchlorate was treated with 2,3-dichloro-1,4-naphthoquinone in the presence of 1,4-diazabicyclo[2.2.2]octane to give 2-chloro-3-[(1,3-dimethyl-1,2-dihydro-2-quinoxalinylidene)methyl]-1,4-naphthoquinone and cyclization in the presence of HOAc and pyridine gave naphthophenazinone dye I(R = H, R1 = Me) [52736-89-7].

L4 ANSWER 75 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1974:491475 CAPLUS
DN 81:91475
TI 2-Methyl-3-phenylquinoxalines and their styryl derivatives
AU Mahajanshetti, C. S.; Bhat, G. A.
CS Dep. Chem., Karnatak Univ., Dharwar, India
SO Indian Journal of Chemistry (1974), 12(1), 54-6
CODEN: IJOCAP; ISSN: 0019-5103
DT Journal
LA English
IT **53399-28-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and condensation with benzaldehydes)
RN 53399-28-3 CAPLUS
CN Quinoxaline, 2-(4-bromophenyl)-6,7-dichloro-3-methyl- (9CI) (CA INDEX NAME)

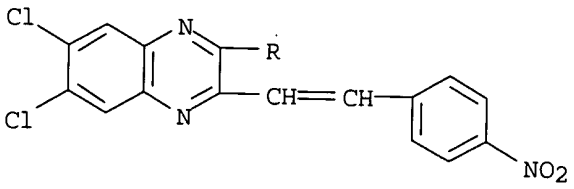


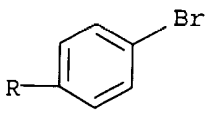
IT **53399-30-7P 53399-32-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 53399-30-7 CAPLUS
CN Quinoxaline, 2-(4-bromophenyl)-6,7-dichloro-3-(2-phenylethenyl)-, (E)-
(9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 53399-32-9 CAPLUS
CN Quinoxaline, 2-(4-bromophenyl)-6,7-dichloro-3-[2-(4-nitrophenyl)ethenyl]-
(9CI) (CA INDEX NAME)

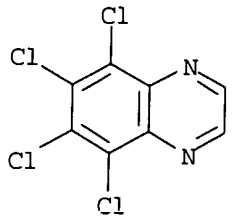




GI For diagram(s), see printed CA Issue.
AB 2-Methyl-3-(4-bromophenyl)quinoxalines I (R = Me; R1 = H, Cl, Me; R2 = H, Cl, Me, NO2; R3 = Br) were prepd. by condensation of appropriate 1,2-diaminoben-zenes with 1-phenyl-1,2-propanediones. 1,2-Diamino-4-nitro-benzene gave a mixt. of I (R = Me, R1 = H, R2 = NO2, R3 = Br; R = Me, R1 = NO2, R2 = H, R3 = Br). 2-Styryl derivs. I (R = PhCH2:CH2, p-O2NC6H4CH:CH2) were prepd. by con-densation of I (R = Me) with PhCHO and p-O2NC6H4CHO, resp. The 2-styryl derivs. possess a trans configuration.

L4 ANSWER 76 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1974:400487 CAPLUS
DN 81:487
TI Use of fungicides to control powdery mildew on spring barley
AU Mundy, E. J.; Page, R. A.
CS Norfolk Agric. Stn., Motley St. Botolph/Wymondham/Norfolk, UK
SO Experimental Husbandry (1973), No. 24, 94-104
CODEN: EXHUAU; ISSN: 0071-3414
DT Journal

LA English
IT **3495-42-9**
RL: BIOL (Biological study)
(powdery mildew control by, on barley)
RN 3495-42-9 CAPLUS
CN Quinoxaline, 5,6,7,8-tetrachloro- (7CI, 8CI, 9CI) (CA INDEX NAME)

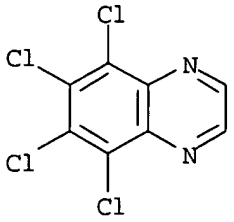


AB The powdery mildew of barley, caused by Erisiphe graminis was controlled in field expts. by seed dressing with ethirimol [23947-60-6] or benomyl (I) [17804-35-2], or by foliar sprays of ethirimol, I, tridemorph [24602-86-6], chloraniformethan [20856-57-9] or tetrachloroquinoxaline [**3495-42-9**]. Ethirimol was more effective as a seed dressing than it was as a foliar spray. The fungicides improved the grain size of 1 variety, but had no effect on the grain N content.

L4 ANSWER 77 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1974:104869 CAPLUS
DN 80:104869
TI Fungicidal tetrachloroquinoxaline preparations
IN Barker, Christopher Holroyd; Evans, Elfeld; Gillings, Christopher
PA Fisons Ltd.
SO Ger. Offen., 10 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2324113	A1	19731213	DE 1973-2324113	19730512
				GB 1972-23229	19720517
				GB 1972-23230	19720517
	FR 2184831	A1	19731228	FR 1973-17456	19730515
				GB 1972-23229	19720517
				GB 1972-23230	19720517
	BE 799625	A1	19731116	BE 1973-131194	19730516
				GB 1972-23229	19720517
				GB 1972-23230	19720517
	NL 7306808	A	19731120	NL 1973-6808	19730516
				GB 1972-23229	19720517
				GB 1972-23230	19720517

IT **3495-42-9**
RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
(fungicide)
RN 3495-42-9 CAPLUS
CN Quinoxaline, 5,6,7,8-tetrachloro- (7CI, 8CI, 9CI) (CA INDEX NAME)



AB Fungicidal prepns. contg. 10-80% 5,6,7,8-tetrachloroquinoxaline [**3495-42-9**] as active component and 2.5-40% Pluronic L 61 (ethylene oxide-polypropylene glycol condensation product) [9003-11-6] as wetting agent and solid carrier (Ca silicate, kaolin, and Na cresolsulfonate-formaldehyde condensation product) were reported. Thus, spraying of barley, in the greenhouse, with a suspension made from a wettable powder contg. 5,6,7,8-tetrachloroquinoxaline 25, Pluronic L 61 12.5, Ca silicate 12.5, Na cresolsulfonate-H2CO condensation product 5, and kaolin 45%, at 560 g active ingredient/ha, 97% controlled Erysiphe graminis.

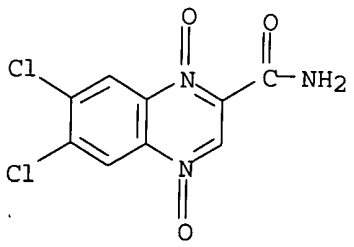
L4 ANSWER 78 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1974:27291 CAPLUS
DN 80:27291
TI Antimicrobial 2-quinoxalinecarboxamide 1,4-dioxides
IN Abu El-Haj, Marwan J.
PA Pfizer Inc.
SO Ger. Offen., 28 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2316765	A1	19731115	DE 1973-2316765	19730404
				US 1972-249373	19720501
	SE 405853	C	19790419	SE 1973-4084	19730322
	SE 405853	B	19790108		
				US 1972-249373	19720501
	GB 1432443	A	19760414	GB 1973-14518	19730326
				US 1972-249373	19720501
	CA 1002047	A1	19761221	CA 1973-167369	19730328
				US 1972-249373	19720501
	FI 55505	C	19790810	FI 1973-1052	19730405
	FI 55505	B	19790430		
				US 1972-249373	19720501
	ZA 7302418	A	19740227	ZA 1973-2418	19730409
				US 1972-249373	19720501
	IN 139311	A	19760605	IN 1973-CA829	19730409
				US 1972-249373	19720501
	BE 797983	A1	19731010	BE 1973-1004953	19730410
				US 1972-249373	19720501
	NL 7305048	A	19731105	NL 1973-5048	19730411
				US 1972-249373	19720501
	FR 2182957	A1	19731214	FR 1973-13108	19730411
				US 1972-249373	19720501
	ES 413579	A1	19760116	ES 1973-413579	19730411

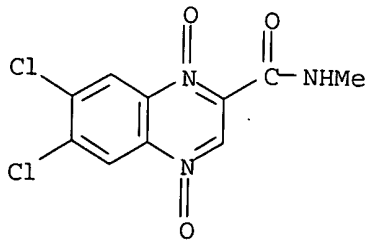
AT 7303210	A	19760415	US 1972-249373	19720501
AT 333767	B	19761210	AT 1973-3210	19730411
DK 143336	B	19810810	US 1972-249373	19720501
DK 143336	C	19811207	DK 1973-1966	19730411
JP 49024980	A2	19740305	US 1972-249373	19720501
JP 57026275	B4	19820603	JP 1973-40917	19730412
CH 568307	A	19751031	US 1972-249373	19720501
			CH 1975-7074	19730412
CH 568988	A	19751114	US 1972-249373	19720501
			CH 1973-5263	19730412
PL 96591	P	19780131	US 1972-249373	19720501
			PL 1973-161873	19730412
NO 139173	C	19790117	US 1972-249373	19720501
NO 139173	B	19781009	NO 1973-1525	19730412
			US 1972-249373	19720501

IT **51168-89-9P 51168-90-2P 51168-91-3P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

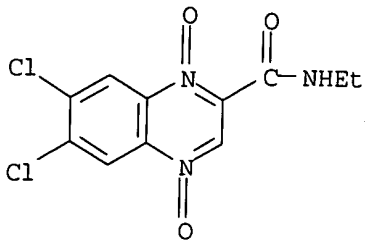
RN 51168-89-9 CAPLUS
CN 2-Quinoxalinecarboxamide, 6,7-dichloro-, 1,4-dioxide (9CI) (CA INDEX NAME)



RN 51168-90-2 CAPLUS
CN 2-Quinoxalinecarboxamide, 6,7-dichloro-N-methyl-, 1,4-dioxide (9CI) (CA INDEX NAME)



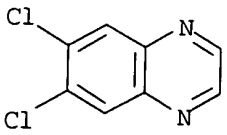
RN 51168-91-3 CAPLUS
CN 2-Quinoxalinecarboxamide, 6,7-dichloro-N-ethyl-, 1,4-dioxide (9CI) (CA INDEX NAME)



GI For diagram(s), see printed CA Issue.

AB Twenty quinoxaline derivs. [I; R = C1-4 alkyl, (CH2)2OH, (CH2)2NMe2; X = H, Cl; Y = H, Cl, F, Br], useful as antimicrobial agents, were prepd. in 5-60% yield by reaction of the benzofuroxans II with MeCOCO2Me and RNH2.

L4 ANSWER 79 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1973:432009 CAPLUS
DN 79:32009
TI Quinoxaline derivatives. XI. Reaction of quinoxaline 1,4-dioxide and some of its derivatives with acetyl chloride
AU Ahmad, Yusuf; Habib, M. S.; Qureshi, M. Ikram; Faroogi, M. A.
CS Chem. Res. Div., Pakistan Counc. Sci. Ind. Res. Lab., Karachi, Pak.
SO Journal of Organic Chemistry (1973), 38(12), 2176-9
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA English
IT **19853-64-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 19853-64-6 CAPLUS
CN Quinoxaline, 6,7-dichloro- (8CI, 9CI) (CA INDEX NAME)



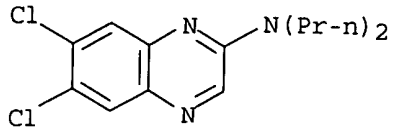
AB Quinoxaline 1,4-dioxide with AcCl gives 6-chloroquinoxaline 1-oxide (I). On heating, and progressively increasing the time of reaction, the yield of I increases, and 3-chloroquinoxaline 1-oxide, and 6.7-dichloroquinoxaline appear as addnl. products. 7-Ethoxy-, 7-methoxy-, 7-methylquinoxaline 1,4-dioxides show a similar behavior, giving corresponding 6-chloro, and 3-chloro derivs. as main products. Further increase in the reaction time results in the formation of 2,6-dichloro and 2,3-dichloro compds. as addnl. products. However, none of the 2-chloro 4-oxide derivs. were isolated. The mechanisms for these transformations were proposed and discussed.

L4 ANSWER 80 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1973:159667 CAPLUS
DN 78:159667
TI Pesticidal 2-aminoquinoxaline derivatives
IN Sasse, Klaus; Hammann, Ingeborg; Unterstenhoefer, Guenter; Frohberger,

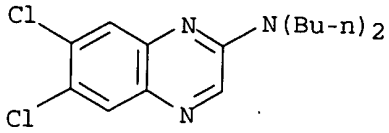
Paul Ernst
PA Bayer A.-G.
SO Ger. Offen., 25 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2144879	A1	19730315	DE 1971-2144879	19710908
	US 3850925	A	19741126	US 1972-284378	19720828
				DE 1971-2144879	19710908
	DD 101402	C	19731112	DD 1972-165391	19720901
				DE 1971-2144879	19710908
	NL 7212079	A	19730312	NL 1972-12079	19720905
				DE 1971-2144879	19710908
	IL 40298	A1	19750625	IL 1972-40298	19720905
				DE 1971-2144879	19710908
	BE 788451	A1	19730306	BE 1972-121718	19720906
				DE 1971-2144879	19710908
	IT 967203	A	19740228	IT 1972-28881	19720906
				DE 1971-2144879	19710908
	AU 7246367	A1	19740314	AU 1972-46367	19720906
				DE 1971-2144879	19710908
	ZA 7206117	A	19730530	ZA 1972-6117	19720907
				DE 1971-2144879	19710908
	HU 165297	P	19740828	HU 1972-BA2801	19720907
				DE 1971-2144879	19710908
	DK 131414	B	19750714	DK 1972-4420	19720907
				DE 1971-2144879	19710908
	FR 2152232	A5	19730420	FR 1972-31960	19720908
				DE 1971-2144879	19710908
	JP 48034185	A2	19730516	JP 1972-89636	19720908
				DE 1971-2144879	19710908
	JP 48035040	A2	19730523	JP 1972-89637	19720908
				DE 1971-2144879	19710908
	GB 1347613	A	19740220	GB 1972-41812	19720908
				DE 1971-2144879	19710908
	AT 321642	B	19750410	AT 1972-7748	19720908
				DE 1971-2144879	19710908

IT **41213-20-1P 41213-21-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 41213-20-1 CAPLUS
CN 2-Quinoxalinamine, 6,7-dichloro-N,N-dipropyl- (9CI) (CA INDEX NAME)



RN 41213-21-2 CAPLUS
CN 2-Quinoxalinamine, N,N-dibutyl-6,7-dichloro- (9CI) (CA INDEX NAME)



GI For diagram(s), see printed CA Issue.

AB Twenty-two title compds. [I, Rn = H, 6-Cl, 6-CF3, or 6,7-Cl2; R1 = NHEt, NHCHMe2, NEt2, NBu2, NPr2, or N(CH2CH:CH2)2] their salts, used as fungicides, acaricides, and insecticides were prepd. by reaction of I (R1 = Cl) with the appropriate amines. Thus, heating I (Rn = H, R1 = Cl) and Pr2NH in dioxane 3 hr at 150.degree. gave 86% I (Rn = H, R1 = NPr2).

L4 ANSWER 81 OF 100 CAPLUS COPYRIGHT 2003 ACS

AN 1973:147994 CAPLUS

DN 78:147994

TI 1-Hydroxy-3-oxobenzimidazoles, quinoxaline di-N-oxides, and benzimidazole mono- and di-N-oxides

PA Research Corp.

SO Brit., 36 pp. Addn. to Brit. 1,215,815 (CA 74; 141873b).
CODEN: BRXXAA

DT Patent

LA English

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 1308370	A	19730228	GB 1970-47202	19701005
				US 1969-883577 A	19691209
	US 4343942	A	19820810	US 1969-883577	19691209
				US 1966-592729 A	219661108
				NL 1967-14882 A	19671102
				US 1967-691252 A	219671218

PATENT FAMILY INFORMATION:

FAN 1969:57899

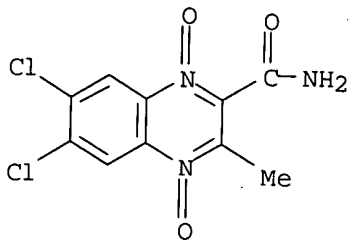
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	GB 1134729	A	19681127	GB 1967-28313	19670620
				US 1966-592729 A	19661108
	DK 137493	C	19780828	DK 1967-5535	19671107
				US 1966-592729 A	19661108
	SE 402289	C	19781005	SE 1973-11829	19730830
				US 1966-592729 A	19661108
	DK 7800142	A	19780112	DK 1978-142	19780112
				US 1966-592729 A	19661108
				DK 1967-5535 A	19671107

FAN 1983:4563

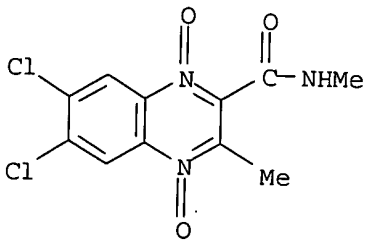
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4343942	A	19820810	US 1969-883577	19691209
				US 1966-592729 A	219661108
				NL 1967-14882 A	19671102
				US 1967-691252 A	219671218
	CA 923131	A1	19730320	CA 1967-4478	19671107
				US 1966-592729 A	19661108
				US 1969-883577 A	19691209
				CA 1970-923131 A	519701118
	GB 1308370	A	19730228	GB 1970-47202	19701005

NL 157302	B	19780717	US 1969-883577 A 19691209 NL 1972-8887 19720628 US 1966-592729 A 19661108 NL 1967-14882 A319671102
DK 7800142	A	19780112	DK 1978-142 19780112 US 1966-592729 A 19661108 DK 1967-5535 A 19671107
US 4866175	A	19890912	US 1979-29344 19790412 US 1966-592729 A219661108 US 1967-691252 A219671218 US 1969-883577 A319691209 US 1977-843510 A119771008

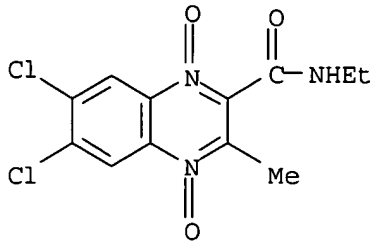
IT **31683-03-1P 31683-07-5P 31683-12-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 31683-03-1 CAPLUS
CN 2-Quinoxalinecarboxamide, 6,7-dichloro-3-methyl-, 1,4-dioxide (8CI, 9CI) (CA INDEX NAME)



RN 31683-07-5 CAPLUS
CN 2-Quinoxalinecarboxamide, 6,7-dichloro-N,3-dimethyl-, 1,4-dioxide (8CI, 9CI) (CA INDEX NAME)



RN 31683-12-2 CAPLUS
CN 2-Quinoxalinecarboxamide, 6,7-dichloro-N-ethyl-3-methyl-, 1,4-dioxide (8CI, 9CI) (CA INDEX NAME)



GI For diagram(s), see printed CA Issue.

AB The title compds., useful in the control of pathogenic microorganisms, were prepd. from benzofuroxans and compds. contg. activated methylene groups. Specific bases used for certain reactants were described. E.g. stirring 6.8 g benzofuroxan, 5.0 g MeCOCH2C:OMe, and 2.96 g PrNH2 in THF overnight gave 0.33 g 2-methyl-3-acetylquinoxaline di-N-oxide. Forty-nine of the quinoxaline oxides (I, R, R1 = H, OMe, CF3, Me, halogen, SO2NH2 and derivs.; R2, R3 = H, alkyl) were similarly prepd. from equimolar amts. of benzofuroxan and MeCOCH2- CONR2R3 in THF contg. Et2NH.

L4 ANSWER 82 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1973:68233 CAPLUS
DN 78:68233
TI 5,6,7,8-Tetrachloroquinoxaline-containing fungicides
PA Fisons Ltd.
SO Fr. Demande, 7 pp.
CODEN: FRXXBL
DT Patent
LA French
FAN.CNT 2

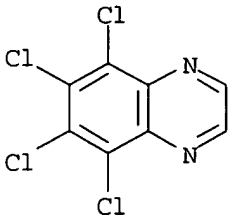
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2115204	A5	19720707	FR 1971-41077	19711117
				GB 1970-54763	19701118
	ZA 7107512	A	19720830	ZA 1971-7512	19711109
				GB 1970-54763	19701118
	BE 775312	A1	19720512	BE 1971-110483	19711112
				GB 1970-54763	19701118
	NL 7115662	A	19720523	NL 1971-15662	19711115
				GB 1970-54763	19701118
	IT 943656	A	19730410	IT 1971-3	19711115
				GB 1970-54763	19701118
	CH 546036	A	19740228	CH 1971-16704	19711117
				GB 1970-54763	19701118
	DD 101275	C	19731112	DD 1971-159011	19711118
				GB 1970-54763	19701118
	HU 164603	P	19740328	HU 1971-FI499	19711118
				GB 1970-54763	19701118
	CS 161052	P	19750504	CS 1971-8076	19711118
				GB 1970-54763	19701118

PATENT FAMILY INFORMATION:
FAN 1972:560986

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2157050	A	19720803	DE 1971-2157050	19711117
				GB 1970-54763	19701118
	ZA 7107512	A	19720830	ZA 1971-7512	19711109

			GB 1970-54763	19701118
BE 775312	A1	19720512	BE 1971-110483	19711112
			GB 1970-54763	19701118
NL 7115662	A	19720523	NL 1971-15662	19711115
			GB 1970-54763	19701118
IT 943656	A	19730410	IT 1971-3	19711115
			GB 1970-54763	19701118
CH 546036	A	19740228	CH 1971-16704	19711117
			GB 1970-54763	19701118
DD 101275	C	19731112	DD 1971-159011	19711118
			GB 1970-54763	19701118
HU 164603	P	19740328	HU 1971-FI499	19711118
			GB 1970-54763	19701118
CS 161052	P	19750504	CS 1971-8076	19711118
			GB 1970-54763	19701118

IT **3495-42-9**
RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
(as fungicide, polymer synergists and stabilizer for)
RN 3495-42-9 CAPLUS
CN Quinoxaline, 5,6,7,8-tetrachloro- (7CI, 8CI, 9CI) (CA INDEX NAME)



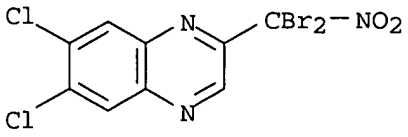
AB A condensation product between ethylene oxide and poly(oxypropylene), such as Pluronic L61 [9003-11-6], enhanced the fungicidal effect and lengthened the shelf life of 5,6,7,8-tetrachloroquinoxaline (I) [**3495-42-9**]. Thus Erysiphe graminis on barley plants was controlled by a formulation contg. 5,6,7,8-tetrachloroquinoxaline 25, Pluronic L61 2.5, Na salt of a sulfonated condensation product between H2CO and an alkylphenol 5, and Kaolin 67.5% applied at 1.12 kg/ha.

L4 ANSWER 83 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1973:43525 CAPLUS
DN 78:43525
TI 2-(Dihalonitromethyl)quinoxalines
IN Gum, Wilson F., Jr.; Goralski, Christian T.
PA Dow Chemical Co.
SO U.S., 2 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

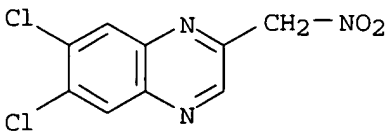
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 3703515	A	19721121	US 1970-94625	19701202
			US 1970-94625	19701202

IT **39481-60-2P**

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 39481-60-2 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-(dibromonitromethyl)- (9CI) (CA INDEX NAME)



IT **39250-46-9**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction with hypobromite)
RN 39250-46-9 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-(nitromethyl)- (9CI) (CA INDEX NAME)



GI For diagram(s), see printed CA Issue.
AB 2-(Nitromethyl)quinoxalines (I, X = Cl, Br; R = H, Et, OMe, CF3, Me, CO2Na, Cl, OEt, Br; R1 = H, OMe, CF3, Me, Et, Cl) were prepd. Thus, 2-(nitromethyl)quinoxaline in CH2ClCH2Cl was treated with 4% NaOCl to give I (X = Cl, R = R1 = H). I have antimicrobial activity and are useful as germicides.

L4 ANSWER 84 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1972:560986 CAPLUS
DN 77:160986
TI Wettable fungicidal compositions
IN Barker, Christopher Holroyd; Evans, Elfed; Gillings, Christopher
PA Fisons Ltd.
SO Ger. Offen., 10 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2157050	A	19720803	DE 1971-2157050	19711117
				GB 1970-54763	19701118
	ZA 7107512	A	19720830	ZA 1971-7512	19711109
				GB 1970-54763	19701118
	BE 775312	A1	19720512	BE 1971-110483	19711112
				GB 1970-54763	19701118
	NL 7115662	A	19720523	NL 1971-15662	19711115
				GB 1970-54763	19701118
	IT 943656	A	19730410	IT 1971-3	19711115
				GB 1970-54763	19701118
	CH 546036	A	19740228	CH 1971-16704	19711117

	DD 101275	C	19731112	GB 1970-54763	19701118
				DD 1971-159011	19711118
	HU 164603	P	19740328	GB 1970-54763	19701118
				HU 1971-FI499	19711118
	CS 161052	P	19750504	GB 1970-54763	19701118
				CS 1971-8076	19711118
				GB 1970-54763	19701118

PATENT FAMILY INFORMATION:

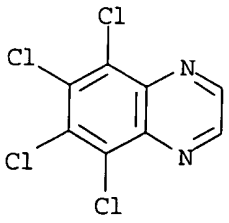
FAN 1973:68233

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2115204	A5	19720707	FR 1971-41077	19711117
				GB 1970-54763	19701118
	ZA 7107512	A	19720830	ZA 1971-7512	19711109
				GB 1970-54763	19701118
	BE 775312	A1	19720512	BE 1971-110483	19711112
				GB 1970-54763	19701118
	NL 7115662	A	19720523	NL 1971-15662	19711115
				GB 1970-54763	19701118
	IT 943656	A	19730410	IT 1971-3	19711115
				GB 1970-54763	19701118
	CH 546036	A	19740228	CH 1971-16704	19711117
				GB 1970-54763	19701118
	DD 101275	C	19731112	DD 1971-159011	19711118
				GB 1970-54763	19701118
	HU 164603	P	19740328	HU 1971-FI499	19711118
				GB 1970-54763	19701118
	CS 161052	P	19750504	CS 1971-8076	19711118
				GB 1970-54763	19701118

IT **3495-42-9**
RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
(fungicides, wettable formulations of)

RN 3495-42-9 CAPLUS

CN Quinoxaline, 5,6,7,8-tetrachloro- (7CI, 8CI, 9CI) (CA INDEX NAME)



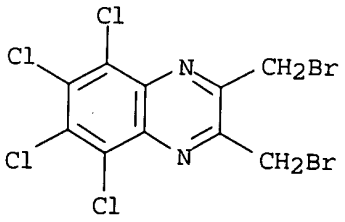
AB The title compns. contg. 5,6,7,8-tetrachloroquinoxaline (I) [**3495-42-9**] were prepd. and used at 1.12 kg/224 l. H2O/ha as fungicides against mildew in barley fields. Thus, a mixt. contg. I 25.0, pluronic L 61 (ethylene oxide-polypropylene glycol copolymer of mol. wt. .sim.1750 contg. .sim.10% ethylene oxide) [9003-11-6] 2.5, Na salt of sulfonated alkylphenol-HCHO condensate 5.0, and kaolin 67.5% was ground, stored 3 months at 25.deg., and suspended in H2O to give a homogeneous dispersion.

L4 ANSWER 85 OF 100 CAPLUS COPYRIGHT 2003 ACS

AN 1972:419675 CAPLUS
DN 77:19675
TI Fungicidal 2,3-bis(bromomethyl)quinoxalines and their 1,4-dioxides
IN Lamb, Glentworth
PA American Cyanamid Co.
SO Ger. Offen., 21 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

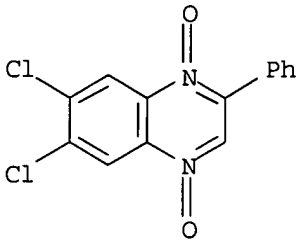
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2140743	A	19720217	DE 1971-2140743	19710813
				US 1970-63594	19700813
	ZA 7104758	A	19720426	ZA 1971-4758	19710719
				US 1970-63594	19700813
	AU 7131478	A1	19730125	AU 1971-31478	19710721
				US 1970-63594	19700813
	GB 1307204	A	19730214	GB 1971-35801	19710729
				US 1970-63594	19700813
	NL 7110997	A	19720215	NL 1971-10997	19710810
				US 1970-63594	19700813
	FR 2104313	A5	19720414	FR 1971-29620	19710812
				US 1970-63594	19700813
	BR 7105193	A0	19730410	BR 1971-5193	19710812
				US 1970-63594	19700813
	BE 771315	A1	19720214	BE 1971-107052	19710813
				US 1970-63594	19700813

IT **31030-64-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 31030-64-5 CAPLUS
CN Quinoxaline, 2,3-bis(bromomethyl)-5,6,7,8-tetrachloro- (8CI, 9CI) (CA INDEX NAME)



GI For diagram(s), see printed CA Issue.
AB Five title compds. (I, Rn = H, 6-NO2, 6-MeO, 6-Cl, or 5,6,7,8-Cl4, Q = N or NO) were prepd. by reaction of RnC6H4-n(NH2)2-o with BrCH2COCOCH2Br (II) followed optionally by oxidn. and 8 I were used as fungicides in plants. Thus, II reacted with 3,4-(H2N)2C6H3NO2 in DMF at <37.degree. and then for 3 hr at 24.degree. to give I (Q = N, Rn = 6-NO2). I (Q = N, Rn = 6-MeO) in AcOH was oxidized with 40% AcOOH for 70 hr at 55.degree. to give 67.5% I (Q = NO, Rn = 6-MeO). I (Q = N, Rn = H) (150 ppm) gave total protection of cucumber from Collectotrichum lagenarium, tomato from Phytophthora infestans, rice from Piricularia oryzae, and apple from Venturia inaequalis (apple scab).

L4 ANSWER 86 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1972:140728 CAPLUS
DN 76:140728
TI Reactions of benzofurazan 1-oxides with enamines
AU Mufarrij, N. A.; Haddadin, M. J.; Issidorides, C. H.; McFarland, J. W.; Johnston, J. D.
CS Dep. Chem., Amer. Univ. Beirut, Beirut, Lebanon
SO Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1972), (7), 965-7
CODEN: JCPRB4; ISSN: 0300-922X
DT Journal
LA English
IT **35982-68-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 35982-68-4 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-phenyl-, 1,4-dioxide (9CI) (CA INDEX NAME)



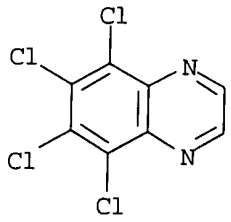
GI For diagram(s), see printed CA Issue.
AB Twenty-three quinoxaline 1,4-dioxides were prepd. from the reaction between benzofurazan 1-oxides and morpholinoenamines; e.g. 80% 6,7,8,9,10,11-hexahydrocycloocta[b]quinoxaline 5,12-dioxide (I) was obtained from benzofurazan 1-oxide and 1-morpholino-1-cyclooctene in MeOH. Four quinoxaline 1,4-dioxides were prepd. from benzofuran 1-oxides and (MeCO)2CH2 in NaOH-EtOH.

L4 ANSWER 87 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1972:21953 CAPLUS
DN 76:21953
TI 5,6,7,8-Tetrachloroquinoxaline-containing wettable fungicidal powders
IN Barker, Christopher H.
PA Fisons Ltd.
SO Ger. Offen., 9 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2107031	A	19710902	DE 1971-2107031	19710215
				GB 1970-7248	19700216
	ZA 7100548	A	19711124	ZA 1971-548	19710128
				GB 1970-7248	19700216
	AT 304160	B	19721227	AT 1971-851	19710202
				GB 1970-7248	19700216
	BE 762672	A1	19710809	BE 1971-99532	19710208

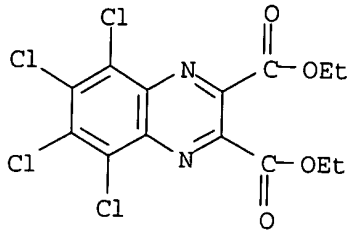
RO 57316	P	19741211	GB 1970-7248		19700216
			RO 1971-65895		19710210
DK 126545	B	19730730	GB 1970-7248		19700216
			DK 1971-626		19710211
NL 7101968	A	19710818	GB 1970-7248		19700216
			NL 1971-1968		19710215
FR 2080521	A5	19711119	GB 1970-7248		19700216
			FR 1971-4947		19710215
CH 524309	A	19720630	GB 1970-7248		19700216
			CH 1971-524309		19710215
			GB 1970-7248		19700216

IT **3495-42-9**
RL: BIOL (Biological study)
(stabilizers for, chloronaphthalenes as)
RN 3495-42-9 CAPLUS
CN Quinoxaline, 5,6,7,8-tetrachloro- (7CI, 8CI, 9CI) (CA INDEX NAME)



AB Chloronaphthalenes (1-2.5%), e.g. 1,4-dichloronaphthalene (I) [1825-31-6], were added to fungicidal powders contg. 5,6,7,8-tetrachloroquinoxaline (II) [**3495-42-9**], useful against e.g. mildew, to prevent nonhomogeneous distribution on plants and the blocking of spray nozzles due to the recrystn. of II. Thus, a milled mixt. contg. II 52.6, mono- and dichloronaphthalenes mixt. 2.5, wetting and dispersing agent 9.0, and sepiolite [18307-23-8] 35.9% was dispersed easily in water after storage for 12 months whereas a chloronaphthalene-free powder could not be dispersed due to formation of long I crystals.

L4 ANSWER 88 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1971:435921 CAPLUS
DN 75:35921
TI Synthesis of esters of o-dicarboxylic acids of the quinoxaline series
AU Gal'pern, M. G.; Luk'yanets, E. A.
CS Nauchno-Issled. Inst. Org. Poluprod. Krasitelei, Moscow, USSR
SO Khimiya Geterotsiklicheskikh Soedinenii (1971), 7(2), 280-1
CODEN: KGSSAQ; ISSN: 0132-6244
DT Journal
LA Russian
IT **33158-53-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 33158-53-1 CAPLUS
CN 2,3-Quinoxalinedicarboxylic acid, 5,6,7,8-tetrachloro-, diethyl ester (8CI) (CA INDEX NAME)

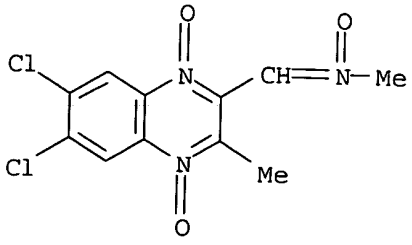


AB By the condensation of aromatic o-diamines with Me or Et dioxosuccinates 9 title compds. were prepd.

L4 ANSWER 89 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1971:125729 CAPLUS
DN 74:125729
TI Antibacterial 2-(iminomethyl)quinoxaline N,1,4-trioxides
IN Kim, Hyun Koo
PA Richardson-Merrell Inc.
SO Ger. Offen., 27 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2043532	A	19710318	DE 1970-2043532	19700902
				US 1969-854796	19690902
	US 3644363	A	19720222	US 1969-854796	19690902
	CA 958414	A1	19741126	CA 1970-90591	19700812
				US 1969-854796	19690902
	ZA 7005735	A	19710428	ZA 1970-5735	19700820
				US 1969-854796	19690902
	GB 1313689	A	19730418	GB 1970-40259	19700820
				US 1969-854796	19690902
	IL 35159	A1	19740314	IL 1970-35159	19700824
				US 1969-854796	19690902
	FR 2070664	A1	19710917	FR 1970-31941	19700902
	FR 2070664	A5	19710917		
				US 1969-854796	19690902

IT **32020-58-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 32020-58-9 CAPLUS
CN Methanamine, N-[(6,7-dichloro-3-methyl-1,4-dioxido-2-quinoxalinyl)methylene]-, N-oxide (9CI) (CA INDEX NAME)



GI For diagram(s), see printed CA Issue.

AB The antibacterial title compds. (I) were prepd. by reaction of 2-formylquinoxaline 1,4-dioxides with R1NHOH. Thus, 0.01 mole 2-formyl-3-methylquinoxaline 1,4-dioxide and 0.012 mole NaHCO3 in warm 95% EtOH was stirred 1 hr with 0.005 mole powd. HONHCH2CH2OH oxalate to give 66% I (R = Me, R1 = HOCH2CH2, R2 = R3 = H). Among 26 other compds. prepd. were I (R2 = R3 = H) (R and R1 given): Me, Me; Me, CH2CHClMe; Me, CH2CHMeOH; Me, Ph; H, Me.

L4 ANSWER 90 OF 100 CAPLUS COPYRIGHT 2003 ACS

AN 1971:112057 CAPLUS

DN 74:112057

TI Antibacterial 3-methyl-2-quinoxalinecarboxamide di-N-oxides

IN Abuel-Haj, Marwan J.; Cronin, Timothy H.

PA Pfizer Inc.

SO Ger. Offen., 53 pp.
CODEN: GWXXBX

DT Patent

LA German

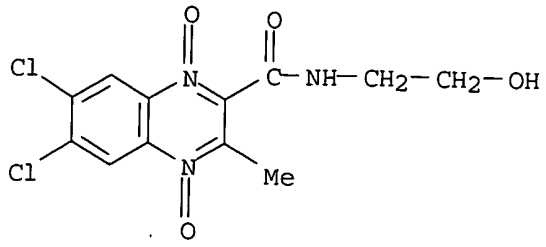
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2035480	A	19710211	DE 1970-2035480	19700717
				US 1969-843775	19690722
				US 1969-843810	19690722
				US 1970-6550	19700128
	US 3635972	A	19720118	US 1969-843810	19690722
	BR 6915087	A0	19730419	BR 1969-215087	19691215
				US 1969-843775	19690722
	BR 6915238	A0	19730213	BR 1969-215238	19691217
				US 1969-843810	19690722
	GB 1325581	A	19730801	GB 1970-33489	19700709
				US 1969-843775	19690722
				US 1969-843810	19690722
				US 1970-6550	19700128
	FR 2059542	A5	19710604	FR 1970-26396	19700717
	FR 2059542	B1	19751128		
				US 1969-843775	19690722
	CA 978949	A1	19751202	CA 1970-88694	19700721
				US 1969-843775	19690722
	CA 979455	A1	19751209	CA 1970-88695	19700721
				US 1969-843810	19690722
				US 1970-6550	19700128

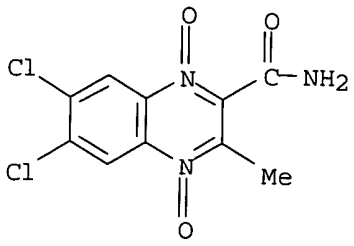
IT **31674-02-9P 31683-03-1P 31683-07-5P 31683-12-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

RN 31674-02-9 CAPLUS

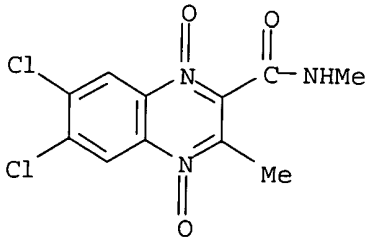
CN 2-Quinoxalinecarboxamide, 6,7-dichloro-N-(2-hydroxyethyl)-3-methyl-, 1,4-dioxide (8CI) (CA INDEX NAME)



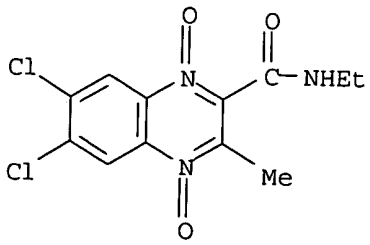
RN 31683-03-1 CAPLUS
CN 2-Quinoxalinecarboxamide, 6,7-dichloro-3-methyl-, 1,4-dioxide (8CI, 9CI) (CA INDEX NAME)



RN 31683-07-5 CAPLUS
CN 2-Quinoxalinecarboxamide, 6,7-dichloro-N,3-dimethyl-, 1,4-dioxide (8CI, 9CI) (CA INDEX NAME)



RN 31683-12-2 CAPLUS
CN 2-Quinoxalinecarboxamide, 6,7-dichloro-N-ethyl-3-methyl-, 1,4-dioxide (8CI, 9CI) (CA INDEX NAME)



GI For diagram(s), see printed CA Issue.

AB Antibacterial and growth-promoting title compds. (I) were prepd. by reaction of benzofuroxans (II) with diketene and HNRR1. Thus, reaction of 4.2 g diketene in Et2O, DMF satd. with MeNH2, and 6.8 g II (R2 = R3 = H) 12 hr at room temp. gave 4.5 g I (R = Me, R1 = R2 = R3 = H). Among .apprx.130 compds. similarly prepd. were I (R, R1, R2, and R3 given): H, Me, Cl, Cl; H, Et, H, OMe; Et, Et, H, Cl; (RR1N =) morpholino, H, H.

L4 ANSWER 91 OF 100 CAPLUS COPYRIGHT 2003 ACS

AN 1971:110756 CAPLUS

DN 74:110756

TI Fungicidal activity of halomethylquinoxalines

AU Huffman, Clarence W.; Krajewski, John J.; Kotz, Phillip J.; Traxler, James T.; Ristich, Samuel S.

CS Growth Sci. Cent., Int. Minerals and Chem. Corp., Libertyville, IL, USA

SO Journal of Agricultural and Food Chemistry (1971), 1(2), 298-301
CODEN: JAFCAU; ISSN: 0021-8561

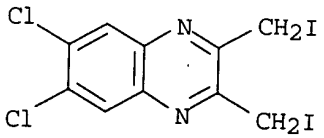
DT Journal

LA English

IT **3298-85-9 3298-96-2 31030-64-5**
RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)
(fungicides)

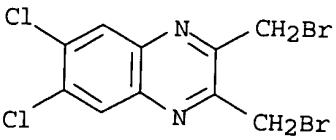
RN 3298-85-9 CAPLUS

CN Quinoxaline, 6,7-dichloro-2,3-bis(iodomethyl)- (7CI, 8CI) (CA INDEX NAME)



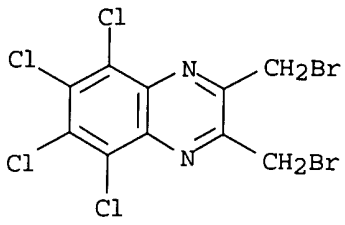
RN 3298-96-2 CAPLUS

CN Quinoxaline, 2,3-bis(bromomethyl)-6,7-dichloro- (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 31030-64-5 CAPLUS

CN Quinoxaline, 2,3-bis(bromomethyl)-5,6,7,8-tetrachloro- (8CI, 9CI) (CA INDEX NAME)



GI For diagram(s), see printed CA Issue.

AB Quinoxalines with one or more haloalkyl groups, such as 2,3-bis(iodomethyl)quinoxaline (I) and 2,3-bis(bromomethyl)quinoxaline (II), were prepd. and evaluated as foliar fungicides. In greenhouse tests, some of these compds. were very active against early and late tomato blights, cucumber anthracnose, bean mildew, apple scab, and rice blast. The highest antifungal actvity was contributed by I and II. This activity in some cases was eliminated by the presence of other groups on the carbocyclic portion of the quinoxaline mol., as in 5,6,7,8-tetrachloro-2,3-bis(bromomethyl)-quinoxaline. Some 2-bromomethyl and 2-iodomethylquinoxa-lines also showed high activity.

L4 ANSWER 92 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1970:68222 CAPLUS
DN 72:68222
TI Cyanine dyes having an imidazo[4,5-b]quinoxaline nucleus
IN Brooker, Leslie G. S.; Van Lare, Earl J.
PA Eastman Kodak Co.
SO U.S., 17 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3431111	A	19690304	US 1967-609791	19670117
	US 3492123	A	19700127	US 1967-609740	19670117
	US 3501310	A	19700317	US 1967-609761	19670117
	SE 345170	B	19720515	SE 1967-3251	19670309
				US 1966-533455	19660311
				US 1967-609761	19670117
	BE 695368	A	19670911	BE 1967-695368	19670310
				US 1966-533455	19660311
				US 1966-573184	19660818
				US 1967-609791	19670117
	BE 695364	A	19670911	BE 1967-695364	19670310
				US 1966-533455	19660311
				US 1967-609761	19670117
	BE 695360	A	19670911	BE 1967-695360	19670310
				US 1966-533455	19660311
				US 1967-609792	19670117
	BE 695367	A	19670911	BE 1967-695367	19670310
				US 1966-533455	19660311
				US 1966-571695	19660811
				US 1967-609740	19670117
	ES 337856	A1	19680816	ES 1967-337856	19670310
				US 1966-533455	19660311
				US 1967-609761	19670117

	CH 474086	A	19690615
	GB 1186714	A	19700402
	BR 6787702	A0	19730118
	NO 129424	B	19740408
	GB 1186720	A	19700402
	GB 1190031	A	19700429
	JP 52001300	B4	19770113
	GB 1199796	A	19700722
	GB 1199797	A	19700722
	GB 1199795	A	19700722
	GB 1199794	A	19700722

PATENT FAMILY INFORMATION:

FAN 1974:38259

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3754964	A	19730828	US 1971-119044	19710226
				US 1966-573184	19660818
				US 1969-871561	19691105
	SE 345170	B	19720515	SE 1967-3251	19670309
				US 1966-533455	19660311
				US 1967-609761	19670117
	BE 695364	A	19670911	BE 1967-695364	19670310
				US 1966-533455	19660311
				US 1967-609761	19670117
	BE 695360	A	19670911	BE 1967-695360	19670310
				US 1966-533455	19660311
				US 1967-609792	19670117
	BE 695367	A	19670911	BE 1967-695367	19670310
				US 1966-533455	19660311
				US 1966-571695	19660811
				US 1967-609740	19670117
	ES 337856	A1	19680816	ES 1967-337856	19670310
				US 1966-533455	19660311
				US 1967-609761	19670117
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				US 1967-609761	19670117
	GB 1186714	A	19700402	GB 1967-1186714	19670310
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				US 1967-609761	19670117
	BR 6787702	A0	19730118	BR 1967-187702	19670310
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				US 1967-609761	19670117
	NO 129424	B	19740408	NO 1967-167226	19670310
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				US 1967-609761	19670117
	GB 1186720	A	19700402	GB 1967-1186720	19670505
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				US 1967-609740	19670117
	GB 1190031	A	19700429	GB 1967-1190031	19670505
				US 1967-609792	19670117
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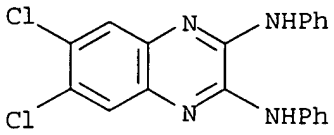
				US 1967-609791	19670117
	GB 1199796	A	19700722	GB 1967-1199796	19670818
				US 1967-609791	19670117
	GB 1199797	A	19700722	GB 1967-1199797	19670818
				US 1967-609791	19670117
	GB 1199795	A	19700722	GB 1967-1199795	19670818
				US 1966-573183	19660818
	GB 1199794	A	19700722	GB 1967-1199794	19670818
				US 1966-573183	19660818

			US 1966-533455	19660311
			US 1967-609761	19670117
NO 129424	B	19740408	NO 1967-167226	19670310
			US 1966-533455	19660311
			US 1967-609761	19670117
GB 1186720	A	19700402	GB 1967-1186720	19670505
			US 1966-571695	19660811
			US 1967-609740	19670117
GB 1190031	A	19700429	GB 1967-1190031	19670505
			US 1967-609792	19670117
GB 1199795	A	19700722	GB 1967-1199795	19670818
			US 1966-573183	19660818
GB 1199794	A	19700722	GB 1967-1199794	19670818
			US 1966-573183	19660818

IT **25983-15-7P**
RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of)
RN 25983-15-7 CAPLUS
CN Quinoxaline, 2,3-dianilino-6,7-dichloro- (8CI) (CA INDEX NAME)



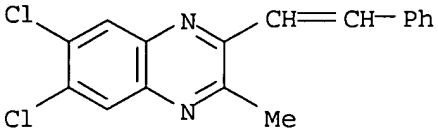
GI For diagram(s), see printed CA Issue.

AB Dyes I-IV, useful as photographic desensitizers which can be bleached by developing agents, were prepd. Thus, a mixt. of 71.5 g 3,4-(H2N)2C6H3Cl and 675 ml (CO2Et)2 was refluxed for 1 hr to give 88% V (R4 = OH, R1 = Cl, R2 = R3 = H) (VI), m. >300.degree.. Similarly prepd. were other V (R4 = OH), m. >320.degree. (R1, R2, R3 given): Cl, Cl, H; H, (R2R3 =) CH:CHCH:CH; NO2, H, H. A suspension of 98 g VI in 200 ml POCl3 was treated with 208 g PCl5 to give 92% V (R4 = R1 = Cl, R2 = R3 = H), m. 143-4.degree.. Similarly prepd. were other V (R4 = Cl) (R1-R3 and m.p. given): Cl, Cl, H, 170-1.degree.; H, (R2R3 =) CH:CHCH:CH, -; NO2, H, H, 252-3.degree. (decompn.). V (R4 = Cl, R1-R3 = H) (25 g) was added to 31 g HOCH2CH2NH2 and heated for 4 hr on a steam bath to give V (R4 = NHCH2CH2OH, R1-R3 = H), m. 180-2.degree.. Similarly prepd. were other V (R1-R4 and m.p. given): H, H, H, PhNH, 73-80.degree.; Cl, Cl, H, PhNH, 195-200.degree.; H, H, H, CH2:CHCH2NH, 86-8.degree.. A soln. of 32.4 g V (R4 = NHEt, R1-R3 = H) in 125 ml AcNMe2 was treated with 24 g AcCl to give 71% VII (R = Et, R1-R3 = H, X = Cl) (VIII), m. 198-200.degree. (decompn.). VII were also prepd. from V (R4 = Cl) without isolating V (R4 = N hR). Similarly prepd. were VII [X = p-MeC6H4SO3 (Ts)] [R-R3 and m.p . (decompn.) given]: CH2CH2OH, H, H, H, -; CH2CH:CH2, H, H, H, 157-9.degree.; Ph, H, H, H, 275-85.degree.; Ph, Cl, H, H, 278-80.degree.; CH2CH:CH2, Cl, H, H, 173-5.degree.; Ph, Cl, Cl, H, 210-45.degree.; Ph, H, (R2R3 =) CH:CHCH:CH, -; Ph, NO2, H, H, 284-5.degree.. A mixt. of 2.8 g VIII and 1.5 g AcOCH(OEt)2 in 10 ml pyridine was refluxed for 10 min to give 34% I (R = Et, R1-R3 = H, n = 1, X = Cl), m. 250-2.degree.. Similarly prepd. were other I [R-R3, n, X, and m.p. (decompn.) given]: Et, H, H, H, 2, Cl, 231-2.degree.; CH2CH2OH, H, H, H, 1, iodide, 254-5.degree.; CH2:CHCH2, H, H, H, 1, Ts, 245-6.degree.; Ph, H, H, H, 1, Ts, 286-8.degree.; Ph, H, Cl, H, 1, Ts, 293-4.degree.; CH2CH:CH2, H, Cl, H, 1, Ts, 251-2.degree.; Ph, Cl, Cl, H, 1, Ts, 312-13.degree.; Ph, H,

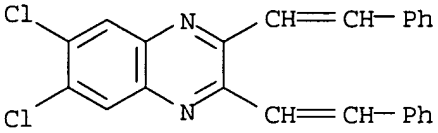
(R2R3 =) CH:CHCH:CH, 1, Br, 305-7.degree.; Ph, NO2, H, H, 1, Ts, 206-7.degree.. An unsym. I, 1,3-diallyl-6' - nitro-1',3' - diphenylimidazo[4,5-b]qu-inoxazolinocarbocyanine p-toluenesulfonate, m. 180-3.degree. (decompn.), was also prepd. A mixt. of 1.4 g VIII and 1.2 g 2-(2-acetanilidovinyl) - 3-ethylbenzoxazolium iodide in 10 ml EtOH and 0.5 g Et3N was refluxed for 15 min to give 33% II [R = Et, R1-R3 = H, R4 = 3-ethyl-2-benzoxazolinylidene (Q), X = iodine], m. 282-3.degree. (decompn.). Similarly prepd. were other II [R-R4, X, and m.p. (decompn.) given]: Et, H, H, H, 3-ethyl-2-benzothiazolinylidene (Q1), iodide, 284-5.degree.; et, H, H, H, 1,3,3-trimethyl - 2-indolinylidene (Q2), iodide, 273-4.degree.; Et, H, H, H, 3-methyl-2-thiazolidinylidene, iodide, 281-2.degree.; Et, H, H, H, 1-ethyl-2(1H)-quinolylidene (Q3), iodine, 291-2.degree.; CH2CH2OH, H, H, H, Q2, iodide, 273-4.degree.; CH2CH:CH2, H, H, H, Q, iodide, 253-4.degree.; CH2CH:CH2, H, H, H, Q1, iodide, 250-1.degree.; CH2CH:CH2, H, H, H, Q2, iodide, 246-7.degree.; CH2CH:CH2, H, H, H, Q4, Ts, 243-4.degree.; CH2CH:CH2, H, H, H, Q3, iodide, 261-2.degree.; Ph, H, H, H, Q, iodide, 289-90.degree.; Ph, H, H, H, Q1, iodide, 288-9.degree.; Ph, H, H, H, Q2, iodide, 299-300.degree.; Ph, H, H, H, Q3, iodide, 284-5.degree.; Ph, H, Cl, H, Q2, iodide, 283-4.degree.; Ph, Cl, Cl, H, Q2, iodide, 310-11.degree.; Ph, Cl, Cl, H, Q3, Ts, 185-7.degree.; Ph, H, (R2R3 =) CH:CHCH:CH, Q2, iodide, 320-1.degree.; Ph, NO2, H. H, 6-nitro-3-ethyl - 2-benzothiazolinylidene, Ts, 250-2.degree.; Ph, NO2, H, H, Q2, iodide, 285-6.degree.. A mixt. of 1.4 g VIII and 1 g p-Me2NC6H4CHO in 10 ml EtOH and 3 drops piperidine was refluxed for 1 hr to give 20% III [R = Et, R1-R3 = H, R4 = p-Me2NC6H4 (Q5), X = iodide], m. 262-3.degree.. Similarly prepd. were other III (X = Ts) [R-R4 and m.p. (decompn.) given]: CH2CH2OH, H, H, H, Q5, 280-1.degree.; CH2CH:CH2, H, H, H, Q5, 238-9.degree.; Ph, H, H, H, Q5, 250-1.degree.; Ph, H, Cl, H, 2-phenyl-1-methyl - indol-3-yl (Q6), 288-9.degree.; Ph, H, Cl, H, 9-methylcarbazol-3-yl (Q7), 287-8.degree.; Ph, H, Cl, H, Q5, 280-1.degree.; CH2CH:CH2, H, Cl, H, Q6, 240-1.degree.; Ph, Cl, Cl, H, Q7, 312-13.degree.; Ph, Cl, Cl, H, Q6, 300-1.degree.; Ph, Cl, Cl, H, Q5, 293-4.degree.; Ph, Cl, Cl, H, 2-methyl-3-phenyl-5-oxo - 4-isoxazolyl, 274-5.degree.; Ph, Cl, Cl, H, 2-(3-sulfopropyl)-3-phenyl - 5-oxo-4-isoxazolyl (anhydro salt), 247-50.degree.; Ph, H, (R2R3 =) CH:CHCH:CH, Q7, 215-18.degree.; Ph, H, (R2R3 =) CH:CHCH:CH, Q6 (X = Br), >310.degree.; Ph, H, (R2R3 =) CH:CHCH:CH, Q5 (X = Br), 262-3.degree.; Ph, NO2, H, H, Q7, 291-2.degree.; Ph, NO2, H, H, Q6, 303-4.degree.; Ph, NO2, H, H, Q5, 257-8.degree.. A mixt. of 2.8 g VIII and 3 g 5-acetanilidomethylene - 3-ethylrhodanine in 15 ml pyridine and 1 g Et3N was refluxed for 45 min to give 29% IV [R = Et, R1 = R2 = H, R3 = 3-ethyl-5-rhodaninylidene (Q8)], m. 285-6.degree.. Similarly prepd. were other IV (R-R3 and m.p. given): Et, H, H, 1,3-diethylhexahydro - 4,6-dioxo-2-thioxo-5-pyrimidylidene, >320.degree.; CH2CH:CH2, H, H, Q8, 227-8.degree.; Ph, H, H, Q8, >320.degree.; Ph, Cl, Cl, 3-phenyl-5-oxo-2-isoxazolin - 4-ylidene, >320.degree.. A mixt. of 2.6 g VII (R = Ph, R1-R3 = H, X = Ts), 2 g 3-ethyl-2-(phenylthio)benzothiazolium iodide, 15 ml EtOH, and 0.5 g Et3N was refluxed for 15 min to give 23% IX, m. 288-9.degree. (decompn.).

L4 ANSWER 93 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1969:421425 CAPLUS
DN 71:21425
TI Quinoxalines. VI. Kinetics of the condensation of 2,3-dimethylquinoxaline with benzaldehyde
AU Kavalek, Jaromir
CS Vys. Skola Chem. Technol., Pardubice, Czech.
SO Collection of Czechoslovak Chemical Communications (1969), 34(6), 1819-23

CODEN: CCCCAK; ISSN: 0010-0765
DT Journal
LA English
IT **25606-79-5P 25606-80-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
RN 25606-79-5 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-methyl-3-styryl- (8CI) (CA INDEX NAME)

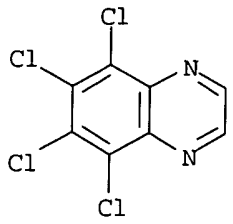


RN 25606-80-8 CAPLUS
CN Quinoxaline, 6,7-dichloro-2,3-distyryl- (8CI) (CA INDEX NAME)

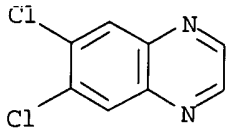


AB In connection with studies of the properties of 2,3-dimethylquinoxaline (I) and its 6-substituted derivs. (P. Vetesnik, J. Kavalek, V. Beranek, and O. Exner, 1968) the reaction of I with BzH was studied and kinetics of formation of 2-methyl-3-styryl-quinoxaline was investigated chromatographically. The reaction is first order with respect to both reaction components. Thus, I condensed with BzH with intermediate formation of alc. substance. This is present in the reaction mixt. due to kinetic relations only in very low concns. High reactivity of the hydrogen in the methylene group vicinal to the heterogeneous nucleus is in agreement with the fact that N.M.R. spectra display larger chem. shifts of protons of these groups in I than in 2-picoline.

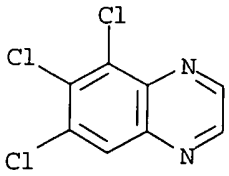
L4 ANSWER 94 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1968:402932 CAPLUS
DN 69:2932
TI Halo o-phenylenediamines and derived heterocyles. Hydrodechlorination of chloroquinoxalines
AU Burton, D. E.; Hughes, D.; Newbold, G. T.; Elvidge, J. A.
CS Chesterford Park Res. Sta., Saffron Walden, UK
SO Journal of the Chemical Society [Section] C: Organic (1968), (10), 1274-80
CODEN: JSOOAX; ISSN: 0022-4952
DT Journal
LA English
IT **3495-42-9P 19853-64-6P 19853-65-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and N.M.R. of)
RN 3495-42-9 CAPLUS
CN Quinoxaline, 5,6,7,8-tetrachloro- (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 19853-64-6 CAPLUS
CN Quinoxaline, 6,7-dichloro- (8CI, 9CI) (CA INDEX NAME)



RN 19853-65-7 CAPLUS
CN Quinoxaline, 5,6,7-trichloro- (7CI, 8CI) (CA INDEX NAME)

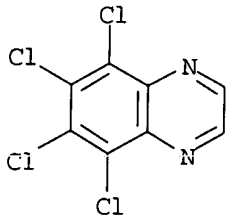


GI For diagram(s), see printed CA Issue.
AB Treatment of 5,6,8-trichloro-7-methylquinoxaline (I) with alkali in aq. EtOH gives 5,8-dichloro-6-methylquinoxaline (II) cleanly in good yield. 5,6,7,8-Tetrachloroquinoxaline similarly, though less satisfactorily, yields 5,6,8-trichloroquinoxaline and 5,8-dichloroquinoxaline. Further expts. with a bearing on the course of these reactions are described and a possible mechanism is discussed. The prepn. of 5,8-dichloro-6-ethoxy-7-methylquinoxaline, a possible product from the reaction I .fwdarw. II, and unambiguous syntheses of III and 5,7-dichloro-6-methylquinoxaline are described. Ir and 1H N.M.R. data for several quinoxalines and their intermediates are also given.

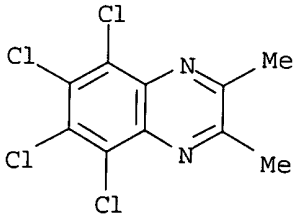
L4 ANSWER 95 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1968:402607 CAPLUS
DN 69:2607
TI Halo-o-phenylenediamines and derived heterocycles. I. Reductive fission of benzotriazoles to o-phenylenediamines
AU Burton, D. E.; Lambie, A. J.; Lane, D. W. J.; Newbold, G. T.; Percival, A.
CS Chesterford Park Res. Sta., Saffron Walden, UK
SO Journal of the Chemical Society [Section] C: Organic (1968), (10), 1268-73
CODEN: JSOOAX; ISSN: 0022-4952
DT Journal
LA English

IT **3495-42-9P 18225-81-5P 18225-82-6P**
18225-83-7P 18225-84-8P 18238-04-5P
18238-05-6P 18238-06-7P 18238-07-8P
18392-43-3P 18392-45-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

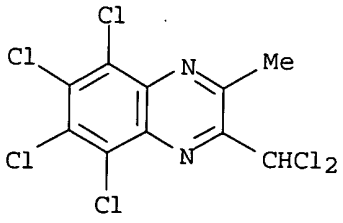
RN 3495-42-9 CAPLUS
CN Quinoxaline, 5,6,7,8-tetrachloro- (7CI, 8CI, 9CI) (CA INDEX NAME)



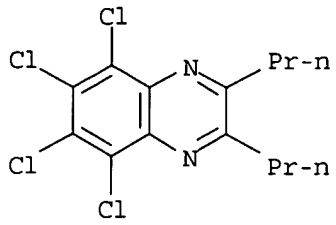
RN 18225-81-5 CAPLUS
CN Quinoxaline, 5,6,7,8-tetrachloro-2,3-dimethyl- (7CI, 8CI, 9CI) (CA INDEX NAME)



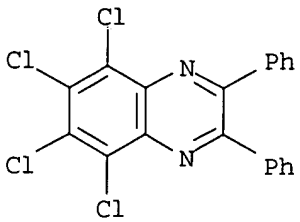
RN 18225-82-6 CAPLUS
CN Quinoxaline, 5,6,7,8-tetrachloro-2-(dichloromethyl)-3-methyl- (8CI) (CA INDEX NAME)



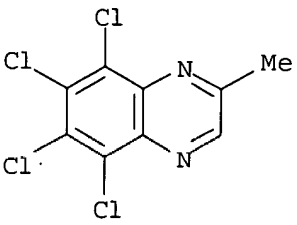
RN 18225-83-7 CAPLUS
CN Quinoxaline, 5,6,7,8-tetrachloro-2,3-dipropyl- (8CI) (CA INDEX NAME)



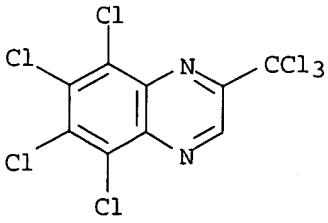
RN 18225-84-8 CAPLUS
CN Quinoxaline, 5,6,7,8-tetrachloro-2,3-diphenyl- (8CI) (CA INDEX NAME)



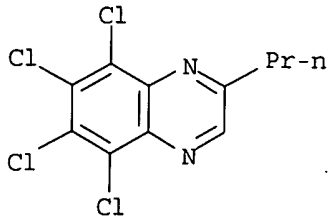
RN 18238-04-5 CAPLUS
CN Quinoxaline, 5,6,7,8-tetrachloro-2-methyl- (7CI, 8CI) (CA INDEX NAME)



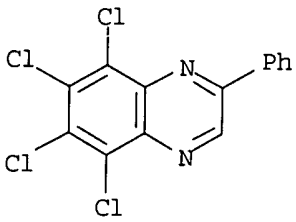
RN 18238-05-6 CAPLUS
CN Quinoxaline, 5,6,7,8-tetrachloro-2-(trichloromethyl)- (8CI) (CA INDEX NAME)



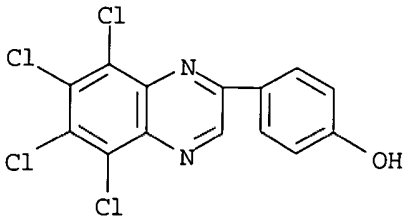
RN 18238-06-7 CAPLUS
CN Quinoxaline, 5,6,7,8-tetrachloro-2-propyl- (8CI) (CA INDEX NAME)



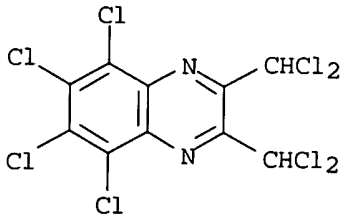
RN 18238-07-8 CAPLUS
CN Quinoxaline, 5,6,7,8-tetrachloro-2-phenyl- (7CI, 8CI) (CA INDEX NAME)



RN 18392-43-3 CAPLUS
CN Phenol, p-(5,6,7,8-tetrachloro-2-quinoxalinyl)- (7CI, 8CI) (CA INDEX NAME)



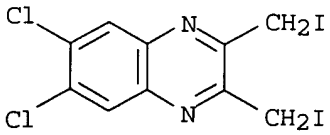
RN 18392-45-5 CAPLUS
CN Quinoxaline, 5,6,7,8-tetrachloro-2,3-bis(dichloromethyl)- (8CI) (CA INDEX NAME)



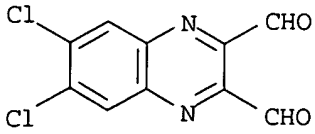
GI For diagram(s), see printed CA Issue.
AB 4,5,6,7-Tetrachlorobenzotriazole and its 1-hydroxy deriv. were reduced with Zn and HCl to give 3,4,5,6-tetrachloro-o-phenylenediamine (I, R = Cl) in good yield. The corresponding diamines (I, R = Me or F) were obtained

similarly from 4,5,7-trichloro-6-methyl-(or fluoro)benzotriazole. Alternative syntheses of the tetrachloro- and methyltrichlorophenylenediamines are described. Benzimidazoles, quinoxalines, and other heterocycles derived from the diamines, esp. from tetrachloro-o-phenylenediamine, are reported. 26 references.

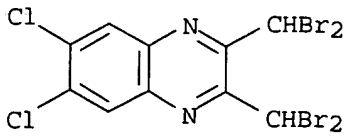
L4 ANSWER 96 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1965:416869 CAPLUS
DN 63:16869
OREF 63:2973d-g
TI The dimethyl sulfoxide oxidation of 2,3-bis(bromomethyl)quinoxaline
AU Moriconi, Emil J.; Fritsch, Albert J.
CS Fordham Univ., New York, NY
SO J. Org. Chem. (1965), 30(5), 1542-7
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA English
IT **3298-85-9**, Quinoxaline, 6,7-dichloro-2,3-bis(iodomethyl)-
3298-89-3, 2,3-Quinoxalinedicarboxaldehyde, 6,7-dichloro-
3298-91-7, Quinoxaline, 6,7-dichloro-2,3-bis(dibromomethyl)-
3298-96-2, Quinoxaline, 2,3-bis(bromomethyl)-6,7-dichloro-
3299-00-1, 2-Quinoxalinecarboxaldehyde, 6,7-dichloro-3-(dibromomethyl)-
(prepn. of)
RN 3298-85-9 CAPLUS
CN Quinoxaline, 6,7-dichloro-2,3-bis(iodomethyl)- (7CI, 8CI) (CA INDEX NAME)



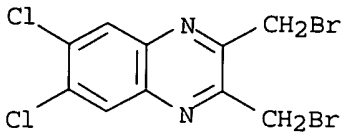
RN 3298-89-3 CAPLUS
CN 2,3-Quinoxalinedicarboxaldehyde, 6,7-dichloro- (7CI, 8CI) (CA INDEX NAME)



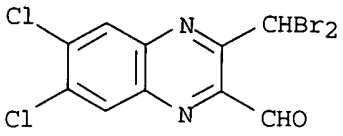
RN 3298-91-7 CAPLUS
CN Quinoxaline, 6,7-dichloro-2,3-bis(dibromomethyl)- (7CI, 8CI) (CA INDEX NAME)



RN 3298-96-2 CAPLUS
CN Quinoxaline, 2,3-bis(bromomethyl)-6,7-dichloro- (7CI, 8CI, 9CI) (CA INDEX NAME)



RN 3299-00-1 CAPLUS
CN 2-Quinoxalinecarboxaldehyde, 6,7-dichloro-3-(dibromomethyl)- (7CI, 8CI) (CA INDEX NAME)

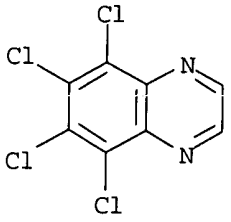


GI For diagram(s), see printed CA Issue.
AB The reaction of 2,3-bis(bromomethyl)quinoxaline (I) with dimethyl sulfoxide produced in varying amounts 3-methyl-(II), 3-bromomethyl- (III), and 3-dibromomethyl-2-quinoxalinecarboxaldehyde (IV), in addition to 2,3-bis(dibromomethyl)quinoxaline (V), and 2,3-(quinoxalinedicarboxaldehyde) (VI) isolated as the intramolecular hemihydrate (VII). A similar oxidation of 2,3-bis(iodomethyl)quinoxaline (VIII) led to II and 3-iodomethyl-2-quinoxalinecarboxaldehyde (IX). The Hunsberger and Tien general mechanism of dimethyl sulfoxide oxidation can account for the formation of all these products, whose structures and mode of formation were independently verified by the chemical interconversion of I, III-IV, VI-IX, and 2,3-dimethylquinoxaline (X). In the presence of the nonalkaline, hydrogen bromide scavenger, 1,2-epoxy-3-phenoxypropane, dimethyl sulfoxide oxidation of I and VIII led to compounds tentatively identified as dl-1,2-dibromo- (XI) and dl-1,2-diiodo-1,2-bis(3-methyl-2-quinoxalyl)ethane (XII). Both XI and XII were dehalogenated to trans-1,2-bis(3-methyl-2-quinoxalyl)ethylene (XIII) whose structure was determined by ozonolysis to II and by synthesis from X and II. Bromination of XIII led to meso-1,2-dibromo-1,2-bis(3-methyl-2-quinoxalyl)ethane (XIV). Dimethyl sulfoxide oxidation of XI, XII, and XIV led to the same product, bis(3-methyl-2-quinoxalyl)glyoxal. A number of 6-chloro-, 6-methyl-, 6,7-dichloro-, and 6,7-dimethyl derivatives of I, IV-VI, VIII, and XV are reported.

L4 ANSWER 97 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1965:406452 CAPLUS
DN 63:6452
OREF 63:1175b-c
TI Gel fungicides, herbicides, and insecticides
PA Fisons Pest Control Ltd.
SO 13 pp.
DT Patent
LA Unavailable
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	BE 641214		19640612	BE	
				GB	19621213
	FR 1426882			FR	
	NL 301648			NL	

IT **3495-42-9**, Quinoxaline, 5,6,7,8-tetrachloro-
(pesticidal compn. contg.)
RN 3495-42-9 CAPLUS
CN Quinoxaline, 5,6,7,8-tetrachloro- (7CI, 8CI, 9CI) (CA INDEX NAME)

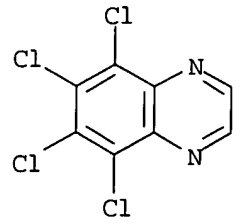


AB Finely divided basic copper chloride 350 was added to a mixt. of stearic acid (I) 60, NaOH 1.4, and H2O 800 parts which was stirred and heated to 65-70.degree.. The mixt. was stirred, cooled to 30.degree., 10 parts Me3N (II) and 100 parts H2O were added, and then allowed to stand until gelled. The gel was dispersed in H2O 1:2 and sprayed on banana plants where it adhered under 10 cm. of artificial rain. Cu chloride, I, and II, were replaced by atrazine, Ca silicate, Calflo E, dieldrin, DDT, N-(p-chlorophenyl)-N'N'-dimethylurea, 4,5,6,7-tetrachloro-quinoxaline, palmitic or arachidic acid, and Bu2NMe, Pr3N, Bu2NH, resp., either sep. or in mixts.

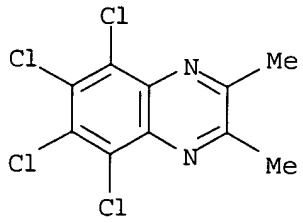
L4 ANSWER 98 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1964:90921 CAPLUS
DN 60:90921
OREF 60:15891e-h,15892a
TI Quinoxaline fungicides
PA Fisons Pest Control Ltd.
SO 26 pp.
DT Patent
LA Unavailable

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	BE 631044		19631104	BE	
				GB	19620412
	FR 1410969			FR	
	GB 1041011			GB	

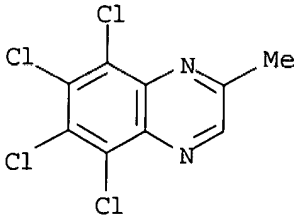
IT **3495-42-9**, Quinoxaline, 5,6,7,8-tetrachloro- **18225-81-5**, Quinoxaline, 5,6,7,8-tetrachloro-2,3-dimethyl- **18238-04-5**, Quinoxaline, 5,6,7,8-tetrachloro-2-methyl- **18238-07-8**, Quinoxaline, 5,6,7,8-tetrachloro-2-phenyl- **18392-43-3**, Phenol, p-(5,6,7,8-tetrachloro-2-quinoxalinyl)- **19853-65-7**, Quinoxaline, 5,6,7-trichloro- **89939-10-6**, Quinoxaline, 5-bromo-6,7,8-trichloro-
(prepn. of)
RN 3495-42-9 CAPLUS
CN Quinoxaline, 5,6,7,8-tetrachloro- (7CI, 8CI, 9CI) (CA INDEX NAME)



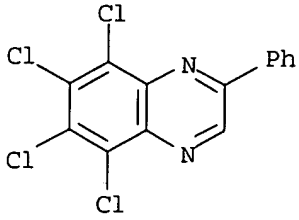
RN 18225-81-5 CAPLUS
CN Quinoxaline, 5,6,7,8-tetrachloro-2,3-dimethyl- (7CI, 8CI, 9CI) (CA INDEX NAME)



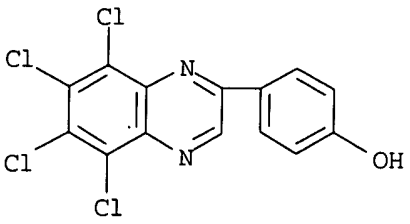
RN 18238-04-5 CAPLUS
CN Quinoxaline, 5,6,7,8-tetrachloro-2-methyl- (7CI, 8CI) (CA INDEX NAME)



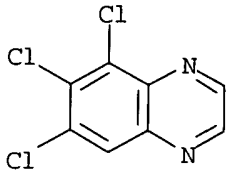
RN 18238-07-8 CAPLUS
CN Quinoxaline, 5,6,7,8-tetrachloro-2-phenyl- (7CI, 8CI) (CA INDEX NAME)



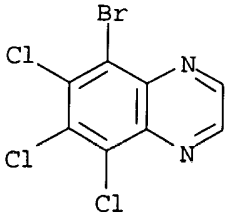
RN 18392-43-3 CAPLUS
CN Phenol, p-(5,6,7,8-tetrachloro-2-quinoxalinyl)- (7CI, 8CI) (CA INDEX NAME)



RN 19853-65-7 CAPLUS
CN Quinoxaline, 5,6,7-trichloro- (7CI, 8CI) (CA INDEX NAME)



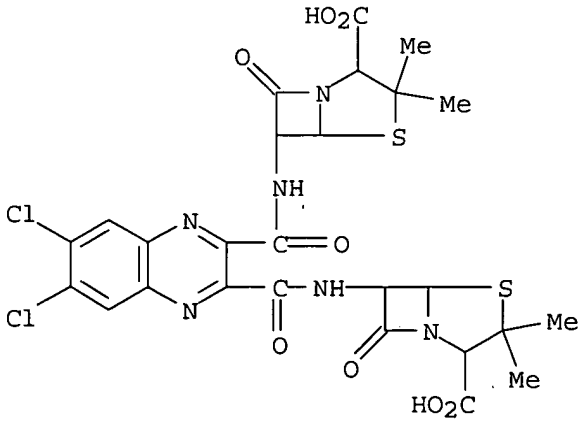
RN 89939-10-6 CAPLUS
CN Quinoxaline, 5-bromo-6,7,8-trichloro- (7CI) (CA INDEX NAME)



AB Quinoxalines (I) were obtained by the reaction between substituted diamines and substituted diketones or their oximes. Thus, 24.6 g. tetrachloro-o-phenylenediamine was dissolved in 250 cc. EtOH by refluxing, 50 cc. 30% glyoxal added, the mixt. refluxed and dild. with a large amt. of H2O, and the ppt. filtered off and recrystd. from EtOH to obtain 5,6,7,8-tetrachloroquinoxaline, m. 189.5-90.5.degree.. Addnl. I prepd. are tabulated. R, R1, R2, R3, R4, R5, m.p.; Me, H, Cl, Cl, Cl, Cl, 174-5.degree.; Me, Me, Cl, Cl, Cl, Cl, 197-8.degree.; H, H, Br, Cl, Cl, Cl, 199-201.degree.; H, H, Cl, F, Cl, Cl, 155-7.degree.; H, H, Cl, Br, Cl, Cl, 306-8.degree.; H, H, Cl, OMe, Cl, Cl, 153-4.degree.; H, H, H, F, H, H, 35-6.degree.; H, H, H, AcNH, H, H, 196-7.degree.; H, H, H, Me, H, H, (b26 135.degree.); OH, H, Cl, Cl, Cl, Cl, 319.degree.; Cl, H, Cl, Cl, Cl, Cl, 170-2.degree.; OMe, H, Cl, Cl, Cl, Cl, 180-2.degree.; OEt, H, Cl, Cl, Cl, Cl, 171-3.degree.; Ph, H, Cl, Cl, Cl, Cl; H, H, H, NO2, NO2, H, 193-4.degree.; H, H, Cl, Cl, Cl, H, 138-9.degree.; H, H, Cl, Cl, H, Cl, 178.5-9.5.degree. A mixt. of I (R-R5 given: Me, H, Cl, H, Cl, H and H, Me, Cl, H, Cl, H), m. 134.5-5.5.degree., and a mixt. of I (Me, H, Cl, Cl, H, Cl and H, Me, Cl, Cl, H, Cl), m. 146-7.degree., was obtained. Similarly was obtained 2-(p-hydroxyphenyl)-5,6,7,8-tetrachloroquinoxaline, m. 313.degree.. Aq. suspensions of 500-2000 p.p.m. I, prepd. by

introducing in H2O a mixt. of I 50, kaolin 200, and Na dodecyl sulfate 20 parts were tested against Erysiphe cichoracearum, Botrytis fabae, and Uromyces phaseoli.

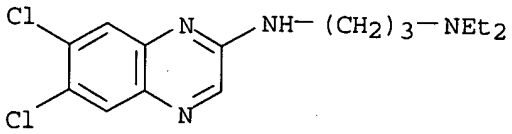
L4 ANSWER 99 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1963:456940 CAPLUS
DN 59:56940
OREF 59:10497f-h,10498a-b
TI Quinacillin, a new penicillin with unusual properties
AU Richards, H. C.; Housley, J. R.; Spooner, D. F.
CS Boots Pure Drug Co., Nottingham, UK
SO Nature (1963), 199(4891), 354-6
DT Journal
LA Unavailable
IT **102032-47-3**, 4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 6,6'-[(6,7-dichloro-2,3-quinoxalinediyl)bis(carbonylimino)]bis[3,3-dimethyl-7-oxo-
(as antibiotic substance)
RN 102032-47-3 CAPLUS
CN 4-Thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid, 6,6'-[(6,7-dichloro-2,3-quinoxalinediyl)bis(carbonylimino)]bis[3,3-dimethyl-7-oxo- (7CI) (CA INDEX NAME)



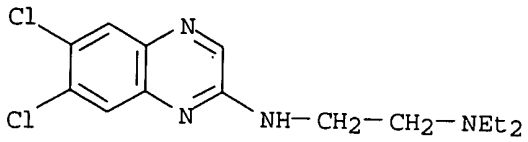
AB cf. CA 53, 13264c. In search of penicillins resistant to staphylococcal penicillinase hydrolysis, (carboxymethyl)phenylbenzylpenicillin was prepd. with min. inhibitory concn. (.gamma./ml.) against Staphylococcus aureus designated as highly penicillin-resistant >500, mod. penicillin-resistant 33.3, and penicillin-sensitive 0.01. Other semisynthetic penicillins were tested (side chain acid, min. inhibitory concns. as above given, resp.): 2-pyridine carboxylic 500, 11.1, 0.4; 3-pyridinecarboxylic >500, 100, 1.2; 4-pyridinecarboxylic 500, 100, 0.4; 3-methyl-2-pyridinecarboxylic 500, 33.3, 0.4; 6-methyl-2-pyridinecarboxylic 500, 3.7, 0.4; 2-quinolinecarboxylic 500, 1.2, 0.04; 2,3-pyridinedicarboxylic 11.1, 11.1, 3.7; 2,3-pyrazinedicarboxylic 33.3, 11.1, 1.2; 5,6-dimethyl-2,3-pyrazinedicarboxylic 33.3, 11.1, 3.7; 2,3quinolinedicarboxylic 0.4, 0.4, 0.4; 2,3-quinoxalinedicarboxylic 0.4, 0.4, 0.4; 6,7-dimethyl-2,3-quinoxalinedicarboxylic 11.1, 3.7, 3.7; 6,7-dichloro-2,3-quinoxalinedicarboxylic 33.3, 11.1, 3.7. The di-Na salt of 3-carboxy-2-quinoxalinecarbonylpenicillin (quinacillin) (IV) is prepd. by condensation of 2,3-quinoxalinedicarboxylic anhydride with

6-aminopenicillanic acid in HCONMe2 and Et3N and sepd. from Me2CO as the bis(triethylammonlum) salt monohydrate, m.p. 135-7.degree. (decomp.), [.alpha.]20D + 142 (c 0.376, H2O). An aq. soln. of the salt heated with satd. NaOAc gives IV as cream colored needles dried in vacuo at 40.degree., m. 260.degree. (decomp.) contg. 9% H2O. Anhyd. IV prepd. by drying at 100.degree. at 2 mm. m. 261-2.degree. (decomp.) and [.alpha.]23D + 183.5 (H2O) very hygroscopic and acquiring bright yellow color in sunlight, stable for 2 months at 0.degree., half life 12 days at 37, half life in 50% EtOH 0.1N HCl, 290 min. and deep violet chelate forms with Fe(II) and a red color with Cu(I). Bacteriostatic activity of several dilns. in agar, peptone yeast ext., glucose contg. 10% ox serum at pH 7.0 inoculated with 0.01 ml. culture and incubated for 24 hrs. at 37 gave min. inhibitory concns. in .gamma./ml. as follows: Staphylococcus aureus 0.15-0.62, Streptococcus pyogenes 3.7, Streptococcus (groups, B, C, D, 5 species) 3.7- >100, Diplococcus pneumoniae 3.7, Corynebacterium (4 species) 3.7-11.1, Sarcina lutea 11.1, Bacillus (6 species) 33.3, Lactobacillus (3 species) >100, Bordetella parapertussis >100, Neisseria catarrhalis >100, Escherichia coli >100, Proteus (4 species) >100, Salmonella (6 species) >100, Shigella (3 species) >100, Pseudomonas (2 species) >100. Bacteriostatic activity compared with benzylpenicillin against 50 strains of S. aureus from clin. sources at concns. 1.2 .gamma./ml. or greater at pH 7.0 showed no growth while benzylpenicillin showed growth at 1.2, 50, and 100 .gamma./ml. Min. inhibitory concn. in .gamma./ml. of some ester and amide derivs. against S. aureus were given.

L4 ANSWER 100 OF 100 CAPLUS COPYRIGHT 2003 ACS
AN 1957:25568 CAPLUS
DN 51:25568
OREF 51:5089a-i,5090a-d
TI Quinoxalines of biological interest
AU Acheson, R. M.
CS Oxford Univ., UK
SO J. Chem. Soc. (1956) 4731-5
DT Journal
LA Unavailable
IT **106739-62-2**, Quinoxaline, 6,7-dichloro-2-[(3-diethylaminopropyl)amino]-
(and derivs.)
RN 106739-62-2 CAPLUS
CN 1,3-Propanediamine, N'-(6,7-dichloro-2-quinoxalinyl)-N,N-diethyl- (9CI) (CA INDEX NAME)



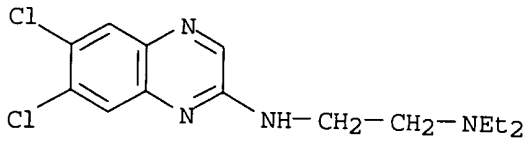
IT **100721-83-3**, Quinoxaline, 6,7-dichloro-2-[(2-diethylamino-ethyl)amino]- **110441-42-4**, Quinoxaline, 6,7-dichloro-2-[(2-diethylamino-ethyl)amino]-, methiodide
(prepn. of)
RN 100721-83-3 CAPLUS
CN Quinoxaline 6,7-dichloro-2-[(2-diethylaminoethyl)amino]- (6CI) (CA INDEX NAME)



RN 110441-42-4 CAPLUS
CN Quinoxaline, 6,7-dichloro-2-[(2-diethylaminoethyl)amino]-, methiodide (6CI) (CA INDEX NAME)

CM 1

CRN 100721-83-3
CMF C14 H18 Cl2 N4



CM 2

CRN 74-88-4
CMF C H3 I

AB cf. C.A. 42, 1404h). Some quinoxaline analogs of pteroic and pteroylglutamic acid were synthesized. 2-Chloroquinoxaline (I) (0.82 g.) and 0.69 g. p-H2NC6H4CO2H refluxed 2 hrs. in 6 ml. PrOH gave 1.12 g. yellow powder (needles from PhNO2), which was dissolved in aq. Na2CO3 and pptd. by dil. HCl to give p-2-quinoxalinylaminobenzoic acid, m. 344-5.degree. (decompn.). The latter did not appreciably affect the growth of Streptococcus lactis R. I (0.6 g.) and 1.18 g. Et p-aminobenzoyl-(-)-glutamate refluxed 4 hrs. in 5 ml. EtOH and the ppt. (1.3 g.) crystd. from EtOH in the presence of C gave Et p-2-quinoxalinylaminobenzoyl-(-)-glutamate (II), m. 168.degree.. II (0.72 g.) in 12 ml. EtOH was kept 90 min. at 20.degree. with 0.24 g. NaOH in 2 ml. H2O, the ppt. taken up in H2O and acidified, the pptd. acid taken up in aq. NaHCO3, treated with C and filtered, and the boiling soln. acidified with dil. HCl to yield 86% p-2-quinoxalinylaminobenzoyl-(-)-glutamic acid, m. 252.degree. (decompn.), with small growth-inhibitory effect on Lactobacillus casei, prevented by pteroylglutamic acid. For the prepn. of p-2-quinoxalinylmethylaminobenzoic acid (III), the bromination of 2-methylquinoxaline to 2-bromomethylquinoxaline was unsuccessful, p-MeC6H4SO2Cl (59 g.), 15 g. o-phenylenediamine, and 75 ml. pyridine heated 1 hr. at 100.degree., poured into 1 l. H2O, and the ppt. crystd. from EtOH gave 46.2 g. N,N'-di-p-toluenesulfonyl-o-phenylenediamine (IV), m. 204.degree.. IV (88.2 g.) and 46.25 g. BrCH2CHBrCH2OH in 200 ml. EtOH were successively added to alc. NaOEt (9.75 g. Na in 1 l. EtOH), the soln.

refluxed 6 hrs. and evapd., the residue washed with H2O, dried, refluxed with 100 ml. C5H6, and cooled, and the residue taken up in 1 l. boiling EtOH and cooled to give 44.5 g. 1,2,3,4-tetrahydro-2-hydroxymethyl-1,4-di-p-toluenesulfonylquinoxaline (V), m. 193.degree. (prisms). V (5.08 g.) in 50 ml. concd. H2SO4 contg. 0.5 ml. H2O was kept warm 2 days, poured onto ice, the mixt. made alk., repeatedly extd. with CHCl3, and the ext. evapd. to give 84% tetrahydroquinoxaline, m. 140-1.degree.; picrate, m. 178-80.degree.. The high yield was not reproducible and this approach was abandoned. Oxidation of V with K3Fe(CN)6 gave only quinoxaline. 2-Tribromomethylquinoxaline (5.6 g.) refluxed 4.5 hrs. with 1.2 g. Na in 30 ml. MeOH, the soln. evapd., the residue solidified by addn. of H2O, and recrystd. from MeOH gave fine needles of Me quinoxaline-2-orthocarboxylate, m. 63-5.degree.. AcC(:NOH)CO2Et (3.2 g.), 2.16 g. o-ophenylenediamine, and 1.14 ml. AcOH were refluxed 5 hrs. in 10 ml. EtOH, cooled, and filtered off to give 0.25 g. pale yellow 2-hydroxy-3-methylquinoxaline, m. 245.degree. (from EtOH); the filtrate was made alk., the ppt. taken up in Et2O, the ext. evapd. and the residue converted to 1.8 g. 2-methylbenzlmidazole picrate, m. 211-12.degree.. Quinoxaline-2-aldehyde (0.46 g.) and 0.4 g. p-H2NC5H4CO2H heated 1 hr. at 100.degree. in 5 ml. dioxane gave 89% anil (VI), m. 286-7.degree. (reduced over PtO2, cf. Leese and Rydon, C.A. 49, 13242b); Et ester (VIa), m. 139.degree.. VIa (0.527 g.) in 15 ml. dioxane was hydrogenated (equiv. to 1 double bond) at room temp. and 1 atm. in the presence of PtO2, the mixt. filtered, and the filtrate evapd. in vacuo, the residue washed with EtOH, and the crude product crystd. from pyridine to give III Et ester, m. 229-32.degree.. Reduction of VI over Raney Ni with 36% H equiv. to 1 double bond gave 33% III. OHCCBr:CBrCO2H (5.9 g.) and 7.5 g. p-H2NC6H4CO2Et boiled 20 min. in 40 ml. EtOH, kept overnight, and the 7.9 g. orange-red ppt. crystd. from dil. alc. gave p-EtO2CC6H4NHCH:CBrCH:NC6H4CO2Et-p.HBr.2H2O (VII)., m. 249-50.degree. (decompn.). VII (9.7 g.) refluxed 45 min. with 1.5 l. H2O, the ppt. (5.1 g.) filtered off next day, and crystd. from EtOH gave p-EtO2CC6H4NHCH:CBrCHO, m. 159-60.degree., giving intractable black tars with o-phenylenediamine in boiling EtOH alone, in the presence of 1 or 2 moles HCl, or in HOCH2CH2OH at 140.degree.. Na(O2N)C(CHO)2 (1.39 g.) in 5 ml. H2O was added to 1.65 g. p-H2NC6H4CO2Et in 10 ml. H2O and 1 ml. concd. HCl, heated a few min. on a steam bath and the yellow product crystd. from EtOH to yield 95% .beta.-(p-carbethoxyanilino)-.alpha.-nitroacrylaldehyde (VIII), m. 158-9.degree.. VIII (0.88 g.) and 0.36 g. o-phenylenediamine were refluxed in 5 ml. EtOH causing pptn. of red solid, the mixt. refluxed 1 hr. with 15 ml. addnl. EtOH to give 81% 3-nitro-6,7-benzo-1,5-diazepine, m. above 360.degree. (from quinoline). The filtrate contained 67% p-H2NC6H4CO2Et. Reducing 4.74 g. 1,2,4,5-Cl2(O2N)2C6H2 in 30 ml. EtOH over Raney Ni, pouring the O-sensitive mixt. into 20 ml. boiling EtOH contg. 3.8 g. (HO)2C(CO2Et)2, refluxing the mixt. 45 min., treating with C, and filtering, cooling and crystg. the product (3.7 g.) from EtOAc gave Et 6,7-dichloro-2-hydroxyquinoxaline-3-carboxylate, m. 230.degree.; acid, m. 340.degree. (decompn.), converted by refluxing in PhNO2 to 6,7-dichloro-2-hydroxyquinozaline (IX), m. 343.degree. (decompn.) (from PrOH). IX (1.0 g.) refluxed 45 min. with 10 ml. POCl3, the red soin. evapd. in vacuo, the residue dild. with H2O and extd. with Et2O, the washed and dried exts. evapd. and the product crystd. from EtOH gave 1.0 g. 2,6,7-trichloroquinoxaline (X), m. 147.degree.. X (0.35 g.) was heated 3 hrs. at 110-40.degree. with 1 ml. H2NCH2CH2NEt2, the mixt. distd. at 100.degree./14 mm., the residual oil taken up in dil. acid, the soln. extd. with Et2O, the aq. layer made alk., and extd. with Et2O to give 6,7-dichloro-2,2'-diethylaminoethylaminoquinoxaline (XI), b0.03 168-73.degree.; MeI deriv., m. 196-7.degree. (from EtOH). Similarly 1.2

g. X and 3.2 ml. H2N(CH2)3NEt2 gave 6,7-dichloro-2,3'-diethylaminopropylaminoquinoxaline (XIa), m. 84-6.degree. (from Et2O), b0.05 183-8.degree.; picrate, m. 182.degree. (from EtOH); MeI deriv., m. 212.degree. (from EtOH). The corresponding nonchlorinated compds., 2,2'-diethylaminoethylaminoquinoxaline, b0.02 140.degree. (dipicrate, m. 185.degree.), and 2,3'-diethylaminopropylaminoquinoxaline, b0.1 200-5.degree. [dipicrate, m. 164.degree. (from EtOH)], were similarly prepd. XI, XIa, and the nonchlorinated compds. (cf. Crowther et al., C.A. 44, 3497i) are inactive against Plasmodium gallinaceum in chicks.